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The Editorial board regrets that three corrections to names of lichens could not be made before printing. Please change as follows:

Page 28: Aspicilia calcarea should read Aspicilia calcarea

O demulata should read O demutata

Page 29: Usnea subfloridana should read Usnea subfloridana

Thank you.

.A

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iss Z Harris

r H J Houghton

r K Rowland

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20 OCT 1988

LINCOLNSHIRE NATURALISTS' UNION

PRESIDENTIAL ADDRESS

delivered in Lincoln on 19 March 1988

by Norah Goom

RECORDING ONE'S OWN PATCH

In the 1950's, when agricultural pesticides became a pest, no-one knew how big the populations of common birds were. The British Trust for Ornithology mounted a countrywide survey to find out, using simple methods and local amateur naturalists. The resulting publication, 'The Atlas of Breeding Birds in Britain and Ireland' gave a baseline from which to work. Now 20 years later, work is beginning on a new survey from which, for the first time, it will be possible to see how birds have fared in the interim. This, I believe, is what gives point to recording wildlife.

At a time when acres of land can be devastated by bulldozers in such a short space of time, only long-term and repeated surveys can show up what is happening and why. Methods of recording may change and become more sophisticated, but the knowledgeable naturalist is still required to interpret what the computer prints out. I have no computer but I do have a notebook and pencil and some Ordnance Survey maps, and what I should like to do this afternoon is to offer you some idea of what wildlife there is in my end of the 10 km square known as TF13, say in tetrads A-D, and of noticeable changes that have occurred since I first went to live in Birthorpe in 1968.

At that time I had 2 aims for the garden of Old Mill Farm: a lawn fit for Hoopoes and Cotoneaster berries for Waxwings. The lawn was defeated straight away by high rainfall and lack of mowing time, and wouldn't you know that the only Waxwings in the area were reported to me by Mrs Reg Barnes down in Billingborough - gobbling up her rose-hips. So perhaps the fact that things have not turned up may be important too.

Location and description

The area is some 10 miles to the south of Sleaford, on the edge of the fens. The 100 foot contour line does a loop in the south between Birthorpe and Sempringham, and the land drops away through the 50 foot contour to the east to Billingborough and the fens, while to the north of Birthorpe the fields slope down to a beck which figures on the map with the grand name of the Ouseby Mere Lode. There is a rise on the other side of the beck and the road to the farmsteads of Stow. The soil is predominantly silty loam, and most of the farmland forms part of the Crown Estate.

BIRTHORPE is an oasis in the midst of arable land, in which cereals, potatoes and, more recently, oil-seed rape form the main crops. The hamlet consists of 2 farms, with 9 houses stretched out over some half a mile of lane. The Manor has some large trees, including a fine Redwood and old Horse Chestnut, as well as a small stand of conifers. There is little shelter to the north of Grange Farm but some good birches at the road edge. Centrally, on a tiny triangle of grass at the road junction and always at risk from the increasingly large vehicles using the lanes is a single Oak tree. There are 2 paddocks,

grazed by horses when not left for hay - one has certainly been re-seeded, the other is very wet.

Old Mill Farm is the only house on the south side of Ouseby Lane. It stands on 0.4 of an acre of ground and is divorced from its farmland, though barns now belonging to Grange Farm still stand at the back of the garden. Only a few feet of grass verge lie between the house and the roadway, and the old farm access drive separates the house from the former granary, now used as a garage. The shape of the plot is a long triangle, tapering to the west, and the garden is hedged, much of it with Hawthorn, Blackthorn and Elder with about 30 feet of Laurel. In 1968 the orchard contained fruit trees and old soft fruit bushes but the ground was entirely covered by 'kecks' and Horse-radish. (There was a ditch along the south side which went through 2 right-angled bends in a culvert and debouched into a dyke in a field to the east by a pipe smaller than that in which it started. Some years ago the farmer, to whom I am eternally grateful, re-aligned his drainage system, leaving our ditch as an emergency overflow, so we had pipes laid in the bottom and filled it in with soil from Spalding Beet Factory. This produced a nice change of vegetation for one year as it was full of Red-leg (Polygonum persicaria).

To the north we look down to the beck and to Piper Dam Holt, about an acre of land isolated by the beck on one side and the road on the other. In 1968 it was a wood of largely moribund Elm and Elder with a thick undergrowth including Ivy, difficult to penetrate for a long time. It was felled in 1981. This fortunately caused some consternation in Billingborough and the concern expressed resulted in a change of the species to be planted by the Crown Estate, from totally poplar to mixed deciduous trees. It was unfortunate that the re-planting took place in a very dry period, some of it even on thickly laid wood-ash, and many of the saplings died off. A further planting of less varied species was more successful, but very little management has been carried out.

From Piper Dam Holt the road runs east into Billingborough, a village of some 1,100 population centred on the church and spring wells. The latter is both pleasant and interesting on account of the number of visible springs feeding the pond, and - if you like that sort of bird - pinioned waterfowl, including at different times Mandarin, Caroline, Tufted and Muscovy Duck and currently 2 Black-necked Swans. In very hard weather it has been known to attract wild birds such as Goldeneye.

The road north from Billingborough crosses the Ouseby Mere Lode and leads into Horbling by a good avenue of Lime trees, which ends at the Hall: this has diminished shrubbery and a number of old-established trees and conifers around a paddock. Horbling also has spring wells but on a very small scale feeding into a stone trough.

To the south-west of Birthorpe is a green lane known as Primrose Lane - though it must be many years since a Primrose was seen there. It leads to the Marse Dyke and Sempringham Fish Ponds Woods (also known as the Osier beds), and tracks take one away west to the basically Norman church of Sempringham. The village of Sempringham disappeared, as did the 12th century abbey founded by St Gilbert, the only monastic order actually founded in Britain. Much of the stone appears to have been used to build a mansion in the 16th century, and of this vestiges are preserved as humps in the field. We also have the old fishponds, which some of you will have seen. Up until 1986 these were a boggy wilderness of old trees, fallen trees and impenetrable thicket. At the end of that year an MSC team was set to work and a great deal of clearance

done. Where once there was a clump of Marsh Marigolds there is now a sheet of gold and the time would appear to be right for Mrs Irene Weston to revise the 1981 plant-list which she prepared - at great risk to her person from hostile Hawthorns.

Flora

The flora of these tetrads does not appear to be generally exciting. There have been until recently good patches of Cowslips on the roadside verges, but these are being overlaid with dumped soil. There is a fine growth of Ladies' Smock on the western edge of Billingborough, which may be at risk from grass mowing. On the south-western approach to Billingborough there are often good patches of Lesser Broomrape, battling with verge mowing and horses' hooves. Strawberry Clover flourishes in a verge approaching Primrose Lane and in the lane itself, where it has suffered in the 1987/8 winter from tractors and horses. A small amount of Red Bartsia can also usually be found in the lane, similarly at risk. A good growth of Chicory appeared in the road verges in 1985 following a sowing of grass seed.

In Birthorpe our lawn fit for Hoopoes must once have been a rather nice meadow. It now contains a great deal of Self-heal, Yarrow, some Ladies' Bedstraw, Field Madder and Cowslips. Some Harebells have been struggling along over the last few years, and of course, there is plenty of moss and Black Medick. The Cow Parsley and Horse-radish in the orchard have been much reduced but we get a good growth of Dead-nettles (some Cut-leaved is in bloom at the time of writing) and there is usually some Common Hemp-nettle, which I preserve. Birds appear to be responsible for planting Daphne laureola in various parts of the garden. Car tyres are likely to have brought Common Agrimony and Swine-cress Coronopus squamatus into the gravel of the drive and Celery-leaved Buttercup into the farm drive across the road.

Agricultural activities have over the years caused the elimination of Blackthorn and many of the hedges, but we keep our own though with minimal management. A good proportion of the local House Sparrows appear to roost in our Hawthorns and Laurels, which provide roost and nest sites for some other species, as does the mass of Ivy on a fallen Damson tree.

Butterflies

Being lazy I have always preferred the brightly coloured butterflies to the Whites, but since the BBCS wanted to know on what garden plants the butterflies were to be found I have had to look at even the Whites. I have recorded Large, Small and Green-veined in the last year in spite of its being such a poor season for insects. Green-veined White larvae seem to feed on Horse-radish, which makes me kindly disposed to them. We keep a stock of Garlic Mustard Alliaria petiolata and Honesty in the garden for Orange-tip (which I now discover is also a White), and I have recorded them fairly widely throughout the area in the season. Brimstone for me is always a welcome early spring sight but in 1982 I was startled to find one flying in a ditch at Horbling on 14 February. The Browns I have recorded less frequently except for the Gatekeeper. Red Admiral we expect to see annually, but last year we went right through to August before seeing any, and the only Painted Lady I saw was on my green check shirt on the laundry line. Peacocks are usually common, though not last year, and so also are Small Tortoiseshells. In one small garden in Billingborough in 1987 I counted 32 Small Toutoiseshells on 2 clumps of Sedum. We had one on a Dandelion. This one found fluttering in the lane in 1978 remains always in my mind. It lived for 3 days although scorched by stubble burn.

The Comma caused some interest in 1976, in which year my sister picked up a torpid one at Sempringham on 10 February. It was released, unharmed, on 2 April in the same area, having spent the intervening period "in care" in a shoe box. It had not previously occurred to me that some butterflies could over-winter in the open in trees, though I am used to Small Tortoiseshells in the out-buildings.

The scarcity of many flowering plants in the road verges and field edges means that a Small Copper at Sempringham becomes an exciting event, but I am a little perturbed at my temerity in recording a Fritillary in the garden back in 1975, for I can seldom distinguish between different Fritillaries and have seen no other in Lincolnshire.

Moths

I have yet to get a Lepidopterist to set up a light in Birthorpe, so my observation of moths is confined to those that I find at the yard light or around in daylight. Messrs Duddington and Johnson are my mentors but I could sometimes wish that they would produce some coloures illustrations to go with the 'Butterflies and Larger Moths of Lincolnshire'. For a long time I had only Lyneborg's book for identification and I simply cannot translate some of his Latin names into anything that occurs in Lincolnshire. Amongst the moths I have recorded in Birthorpe are Blood-vein (Calothysanis amata, I believe rather than Timandra griseata or even Scopula imitaria); and Angle-shades (Small or Large?) Buff-tipp larvae I was familiar with many years ago, though I had not expected it here on the Fuschia, and I am quite happy with the Common Footman, but my particular pleasure came in 1982 with a female Empress Moth which was flopping around the yard light. Silver Y is common, of course. Golden Y and Common Swift I have recorded, I think correctly. Our Mulleins have been devastated by Mullein Sharks. I have some difficulty over what I call a Plume Moth, and a thinner brown version that hangs on the grass like a crucifix and occurs less frequently here, so I go on hastily to Ruby Tiger, of which there were a number last August - and the splendid green caterpillar that methodically munched its way up the spikes of Linaria.

Other Invertebrates

I found my first adult Caddis fly on the porch door in 1987. Damsel flies and dragonflies are seen occasionally about Sempringham and the Ouseby Mere Lode but regrettably I have never had the urge to catch them for identification for fear of causing damage. Only twice have I found grasshopper of any sort in Birthorpe, nor have I heard any. Earwigs abound in the Clematis, and what I took to be a Hawthorn Shield Bug fell into the ashes in the dustbin before I could rescue it. Lacewings are fairly frequent visitors.

We have Bumble Bees, including Bombus agrorum, and Mrs Jane Ostler identified for us a specimen of a Cuckoo Bee Psithyrus campestris, which parasitises Bombus agrorum. Fortunately I did not need her help in identifying the Hornets which occasionally turned up; the last being in Primrose Lane in 1986. Nor the wasps which nested in the roof and ate their way through the hardboard ceiling. Devil's Coach Horses sometimes ride through the porch, and we get various black beetles, but I am not "into" either beetles or spiders at all.

W G Teagle identified 3 kinds of Wood-lice in the garden, one of which I would never have noticed at all, since it looks like a small white pin-head and lives in ant-hills feeding on the equivalent of bird-pellets. He also found Garden Snail and Rounded Snail, and the black and white millipede which curls up like a watch-spring - Tachypodiolus niger.

Mammals, reptiles and amphibians

So far as small mammals are concerned we see frequent evidence of hedgehog and mole, but sadly many of the records of shrews, mice and field vole are "killed by cat". As the cereals are cut the mammals seek shelter in the hedges and gardens and records increase.

At Old Mill Farm Common Shrew and Short-tailed Field Vole predominate, but 2 Pygmy and 1 Water Shrew have also been brought in. One Common Shrew turned up in the china cupboard, unable to extricate itself from a fruit bowl. Long-tailed Field Mouse has been less common prey, but I suspect that some of the creatures that are heard in the house in winter are of this species. I have certainly seen a very bright brown mouse emerge from my waste-basket, but I am uncertain as to which species chewed up my slippers or tried unsuccessfully to get a Fox's Glacier Mint down the crack in the corner floorboards. To my great distress we did provide the museum with a nice specimen of Harvest Mouse, the only one I have seen.

Grey Squirrels were shot out of Birthorpe some time before 1968, and I did not see any until 1981, since when, I have had infrequent sightings from the Manor. Rats are of course controlled by the farmers and though Foxes are reported from time to time a Hunt operates in the vicinity.

Mustelids are less easy to record than many mammals owing to the lack of traces, but we had an interesting time in 1981, when the cat caught a Stoat, which spent the night in an armchair in the lounge. The only white Stoat I have seen was some miles away at Swaton, when I was on a bird count, and perhaps surprisingly, only once have I seen a Stoat climbing a tree - to the agitation of the Whitethroats of Piper Dam Holt. Weasels are relatively common, and the cat has brought back to the house one live and one dead specimen.

The nearest woodland of reasonable size is some miles away, so it is perhaps not surprising that no Deer were seen until April 1986, when Mr G Chapman saw one on his lawn at Grange Farm. There were 2 more reports in the area in the following year. All would appear to refer to Fallow Deer, of which there are a large number in the south of the County.

Apart from one extraordinary occurrence - in a dustsheet in a bedroom, no Grass Snakes were recorded in Birthorpe until 1985 when Mr D Wesley brought a small dead specimen over from the farmyard - apparently killed by a dog.

Frogs were heard at Sempringham in 1986, and spawn from a garden pond in Billingborough has been put into a small reservoir in Billingborough Fen as well as into sites in Horbling. At least one pond in Birthorpe was drained, I think in the 1970's, as was one in mid-field at Sempringham.

Some time also in the 70's, I was unable to dig a part of the vegetable patch as a Common Newt had been found under a brick. This corner became very overgrown and it is not known when the Newt departed. The conditions did not seem right for amphibians despite the number of wet ditches, so I was astonished when in 1987 a Great Crested Newt was brought across from the garden opposite. We released it under a brick pile just above a wet ditch and hoped that it would find a suitable habitat.

Birds

When one comes to recording birds, one is immediately conscious of the

inconsistency of records caused by both their and one's own mobility. One tends to forget the differences caused by regular employment as against leisure. Many years ago, my sister had a splendid set of records which proved conclusively that Robins only sing on Sundays. One's recording is made easier by the ability to recognize songs and calls; for example, to differentiate the song of Mistle Thrush and Song Thrush, and to know some of the mimicry coming from one's local Starlings. One must also realize that the edges of hearing and recognition may become a trifle blurred as one gets older, and one may have to spend more time proving one's species. Then again, it is easy to remember to record rarities, less easy to remember at night what common species have been seen and where. I can remember beautiful Redwings on grass in front of a Billingborough factory in hard weather, but have no record. Before I moved into Lincolnshire I never openly looked for nests because of a) predation by humans and b) predation by other wildlife, so I do not have the nest-finding habit. Nor do I recognize nests seen only in autumn after the leaves have fallen, and this I have always found a disadvantage. So here I must emphasise that records which I mention are not mine only, but that I am indebted to a number of people whom I have listed at the end of this address. Where a record admitted of an element of doubt it has always gone down in my book in square brackets with the doubt recorded. For example, the total number of species recorded for Birthorpe up to the beginning of 1988 was 86, which included 2 species flying over and 2 "square brackets".

Herons appear occasionally at the Ouseby Mere Lode and in nearby Horbling Fen, but water birds as a whole are not numerous. A few Mallard breed at Sempringham and at a small reservoir just outside Billingborough village, but they are not much seen around Birthorpe. Geese, usually Canadas sometimes fly over without touching down in the area. Moorhen appears to breed at Piper Dam Holt and the fish ponds but is more often heard than seen, except in winter when a number can be found feeding on the arable fields in frosty weather.

The commonest raptor, as one would expect, is the Kestrel and I believe it to have increased in numbers. In 1970 a pair was probably breeding at the corner of Primrose Lane and from 1976 onwards at the fish ponds - one or two trees in the vicinity are no longer available and it is not easy, therefore, to be sure of numbers. I certainly see more birds hunting in the area then I used to and they appear more often at Birthorpe, particularly in times of high wind or stubble burning. We have a few records of less usual raptors. My sister noted a Rough-legged Buzzard in November 1974 on a Sempringham field, feeding on the largest rat I have every seen if the discarded tail is anything to go by. In March 1986 a large raptor rushed through a Lilac bush in our garden, landed on the lawn without catching any of the Sparrows it appeared to have been chasing and stood there upright, glaring at me as I watched through the window. It matched perfectly with the description of an immature Goshawk, a species with which I am not familiar. I could see no sign of jesses, but one could not rule out the possibility of a falconer's bird. An immature Sparrowhawk was more obliging, eating its prey for about 10 minutes in the drive in full view of the kitchen window. Hen Harrier has been reported more than once from Little Dowsby and Billingborough Fen but although apparently heading in our direction there has been no acceptable record here.

I do not bother much about game birds, but I must confess to a partiality for Red-legged Partridge - though I've never eaten it. They breed very near at hand, are liable to feed on the opposite verge or on our lawn when this goes black with Black Medick, or to go chuffing up the drive like an antique

steam train.

Although there have been large flocks of Lapwing around in 1987/8 winter, there has been a drastic decline in breeding and I recorded no nests, even in the fen when checking for the BTO in 1987. In 1973 there had been 2 nests on Birthorpe fields and prior to that it appeared to be breeding at Sempringham and Horbling Fen. This is not a traditional wintering area for Golden Plover and 16 is the largest number recorded in 1987 by my neighbour Mr D Wesley.

One or two Snipe are recorded in most winters often in roadside ditches or from the fish ponds area. A small green patch of lawn when there was wide snow cover in 1969 added Snipe to the Old Mill Farm list. Woodcock have been recorded in the fish ponds wood and in 1974 one was found dead in the road by Piper Dam Holt.

Both Curlew and Whimbrel have been recorded flying over Birthorpe in July or August, but there is only one instance of a bird actually in the Ouseby Mere Lode. There are occasional records of Green Sandpiper for spring or autumn, but only one for Common Sandpiper in the beck. More surprising perhaps are 2 for Redshank as far apart as 1969 and 1987.

When we come to Gulls the absence of formal records is ludicrous. One takes them too much for granted. Black-headed Gulls I just have not recorded, though they follow the tractor, and some Common Gulls appear in winter months.

Stock Doves bred at Birthorpe from 1969 onwards using an old Ash tree in Ouseby Lane until it was demolished in 1977, but they are still around. Wood Pigeon is not the farmer's favourite bird and one can understand this when one sees flocks of 1,000 or more in winter on crops on the arable land. Up to 1974 we used to expect to hear Turtle Dove song regularly at Old Mill Farm, but although one sang persistently in 1981 we now expect it only at Piper Dam Holt and Sempringham.

In 1965 one of the things which made me very kindly disposed toward Lincolnshire (apart from the fact that it had just offered me a nice job) was to end the day of the interview by finding Collared Dove in song on the top of the building in which I was going to work. I had previously only ever seen one, in the middle of Reading in Berkshire. Much later I photographed a barn at Castle Bytham with 174 Collared Doves on the roof. When we moved to Birthorpe there was one in song there; in 1976 there was one drinking at our improvised bird bath and 3 years later we had one holding territory here. They are still recorded here, at Piper Dam Holt and at Sempringham as well as breeding in Billingborough and Horbling, but I suspect that some control must have been exercised to reduce fouling of stored cereals since a peak number of 24 in Birthorpe in 1978.

From 1982 to 1984 Cuckoos appeared to be scarce, but we do expect to hear them in most years. Two interesting points emerged in 1987. I recorded Cuckoo calling quite normally from Billingborough and Piper Dam Holt from 27-31 May. On 1 June one at Birthorpe was singing in seconds (D♯ & C♯). The old rhyme says "In June I change my tune". What is interesting is that at Sleaford I recorded one singing in seconds on 18 May 1973, also in the same place on 23 April 1974 and 29 April 1975. So, did they change their calendar a bit smartish or are some Cuckoos made like that? The other interesting thing to me last year was that our poor Dunnock got cuckoo'd with her second attempt at breeding in thick Honeysuckle. I actually disturbed the female Cuckoo twice from that corner when I was hanging out the laundry so was able to retire to the lounge with binoculars. Unfortunately, I went

away on holiday shortly after and my neighbour reported that when he next looked the nest was empty.

The Barn Owl used to breed in local barns when we came to Birthorpe and I can remember hearing the young snoring while I lay in the bath. Thereafter, records became rather scarce and not until October 1979 did I see 2 birds together at Birthorpe and one, probably one of these 2 was found dead near Sempringham some 3 weeks later. In 1987 the farmer at Birthorpe Manor acquired 2 chicks which he raised in an old barn and released. These he subsequently saw around for some time, though it seemed possible that they had also been seen down in Horbling.

Little Owls bred in Birthorpe in 1972 when young were seen and an adult was divebombing a local cat. At that time you could also usually find one in a daytime roost near Primrose Lane, but records thereafter came mainly from Folkingham Road. Here they had a chequered career, owing to their habit of sauntering around after dark in the road itself. Last year they had taken over a Hawthorn near Piper Dam Holt, but a gale split the tree and blew half of it down. They were around the site up to 11 May, then there were single records from a quarter-mile further east along the road. Here one bird was later found as a road casualty.

Tawny Owls were around in most years from 1968 and in 1976 we had 2 fluffy juveniles in and around the garden. They were believed to breed from 1978 also in the fish ponds wood until their tree was felled in 1986/7. The year 1979 taught me that there may be occasional exceptions to the rule that you should not interfere with a juvenile bird which appears to have been deserted. On 8 August a juvenile Tawny was standing on a hedge in Birthorpe in broad daylight. It was capable of flying and did so when a too-close approach was made. That evening a girl from the other end of the hamlet brought a Tawny to the house, saying that she had found it abandoned and what should she do. She wanted it for a pet. We persuaded her that if it were put back where she found it the parents would be likely to feed it, and finally, very reluctantly she restored it to the Manor ground - where of course, after a night of torrential rain, it was found dead the following morning. In 1987 one of 2 young raised in a nest-box in the same place drowned in a water butt in August.

I have only rarely seen fish in the Ouseby Mere Lode and there is a shortage of suitable banks for nest sites for Kingfisher. Nevertheless, we have now had 7 sightings there (out of breeding season) and 3 records for Sempringham. On one occasion before Piper Dam Holt was felled a Kingfisher flew across the lane in from of my car and straight through the middle of the wood.

We do not have old pasture or parkland trees, nor do we have many Ants, so we have only 3 records of Green Woodpecker, all for Sempringham. GreatSpotted Woodpecker fares a little better however, starting with a passing bird in the garden in 1970 and some half dozen records for Sempringham with probable breeding in the fish ponds wood. One of the nicer records which was passed to me was a a Wryneck in a Billingborough garden on 3 September 1985. Mr Tom Barnes' description ended with the words "and what that bird did with its neck was nobody's business". No square brackets to that one.

Swifts breed in good numbers in Billingborough and there is usally a pair at Grange Farm, with screaming parties a common summer sound. There may be a shortage of suitable nest sites in fen villages however, evidenced by

breeding in 1976, 1986 and 1987 in the capping tiles of a former walled garden in Horbling.

Swallows get over the site difficulty in the fens by nesting under the dyke bridges, but they breed annually in Billingborough and Birthorpe where they can be an embarrassment. A friend in Billingborough always expects them back in his garage about 24 April, and in a very dry season has been known to make mud pies to encourage them - thought his recipe did not seem to hold together very well. In Birthorpe my car has often spent the summer out in the drive as 2 broods are usual and a 3rd has been attempted more than once. The young birds often roost in the garage for a night or two after leaving the nest and this can keep them with us into early September. At least 3 or 4 pairs can be expected in the hamlet every year - 1979 produced an interesting piece of avian home-building, when a nest was stuck on the south wall of the cottage opposite rather like a House Martin's. The latter have bred elsewhere in Birthorpe and there is a number of sites in Billingborough, including one, very aptly, on terrace housing dedicated to Senior Citizens - named 'The Nests'.

In 1969 I put a figure of about 24 nests in the rookery at Sempringham fish ponds wood. Even allowing for my conservative estimates and unwillingness to disturb the birds, this rookery appears to have doubled in size over the years. The increase may be related to the falling or felling of dead Elms in nearby rookery areas and discouragement at Horbling Hall, where the 105 nests counted in 1971 had fallen to 84 by 1975 and probably now stands at a much lower figure. The open winter of 1987/8 has been notable for larger than usual flocks on the arable land around us. Jackdaws breed at Birthorpe and Magpie which used to be a rare sight, has bred in the spinney at Stow and was recorded by the LNU at Sempringham in 1976. Of only 2 records of Jay passing through the area, that for 1983 coincided with a countryside "invasion" situation.

In any long cold spell we worry about Wrens, but they seem to have a good survival rate hereabouts, despite being caught by cats or getting into the house. The number of Song Thrushes breeding in the area is not great, perhaps as few as 2 pairs in Birthorpe. Mistle Thrush may perhaps be overlooked, but currently I could only be sure of song in Billingborough. The greater number of Blackbirds in the hamlet still does not ensure what one would call a 'dawn chorus'. I have counted as many as 19 in the nearest paddock in winter, and during a frosty spell 8 or 9 will come to apples on our lawn. One female Blackbird last winter found that apples grow in garages as well as on lawns and was not in a hurry to leave before the car went out. Fieldfares pass through on their way in from the coast and may stop to feed on the Hawthorns round the beck for a day or two. The occasional one may appear to feed on the apples with the Blackbirds but disappears with the thaw. Redwings can be heard passing over on many October/November nights but do not stay. I used to see them on pasture at Horbling now ploughed up and now find them only occasionally on Birthorpe paddocks or at Sempringham.

My first Wheatear record was on 3 May 1970 at Stow Green. There are records for every year since, usually on fields around Birthorpe. One ornithological recorder said that it was so obvious that Wheatears passed through the area annually that it was not worth the labour of writing them into the LNU record. Maybe so, but did anyone record them before 1970? Would anyone notice if they stopped coming this way? The earliest arrival date I have is 28 March, the latest departure 13 October. I never expected to record Whinchat in these parts but it has now turned up on 6 occasions since the first sighting in October 1976. I wonder how many have gone through unseen. Another bird

I have never expected to see was the Redstart which presented itself very briefly outside the kitchen window in September 1983.

The Grasshopper Warbler again is another unlikely species, and the one which sang for 2 days in a Birthorpe ditch in June 1969 was possibly a displaced or unmated bird which moved on when the adjacent verge was mown. Sedge Warbler however, breeds at Sempringham fish ponds and Piper Dam Holt and possibly at the former rubbish tip on the edge of Billingborough. It is less specific in its needs than the Reed Warbler, which I have not seen at its Sempringham site since 1981.

Blackcap would appear to have bred in most years at Sempringham and in Piper Dam Holt until this was felled, but the only record for Garden Warbler is of a passing bird at Old Mill Farm in 1980. Whitethroats started to come back from 1970 onwards after the general disappearance of Whitethroat populations countrywide in 1968. A pair of Lesser Whitethroats has bred in or near the edge of Piper Dam Holt in most years and a male has sung maddeningly from our own hedges several times when passing through. Willow Warbler nests in Piper Dam Holt and Fish ponds wood, but despite a string of song records, I have still no proof that it breeds in Birthorpe. Chiffchaffs pass through in spring and late summer. Incidentally, if a bird does not sing I put it down as a Chiff-Willow, of which there are a number of local records including one found in the outside loo. Another surprise came in 1979 with a Wood Warbler which permitted good views on 15 August.

In 1978 a lecturer in Billingborough gave a lady very precise details on where to look for Spotted Flycatchers - at Chatsworth in Derbyshire. The date was late October, but the fact that they were summer visitors was not mentioned, and a member of the class volunteered the information that they could be seen any summer in the Lime avenue in Horbling. I myself believe that they were also breeding at Birthorpe Manor at that time, and at Piper Dam Holt until 1980. Since then we have seen them annually, but 1986 was really our Spotted Flycatcher year, when they nested in a hanging basket of Fuschias at No 9, Birthorpe and I changed my seat at meal times in order to watch them coming and going with theirs. Our neighbour used to open her front door a short way and chat to the sitting bird. Once the 3 young were out of the nest the birds decided that Old Mill Farm offered a slightly better menu and they came across to us to feed. Regrettably in 1987, although the basket was prepared for them, only the Manor reported Flycatchers. Serendipity produced the only Pied Flycatcher record in our orchard in 1977.

Meadow Pipit was recorded on the LNU visit to Sempringham but in general is seen around Birthorpe only in winter and in small numbers. Pied Wagtail breed at Billingborough and may be heard flying over. Grey Wagtail has been noted only a couple of times in the area and Yellow Wagtails have touched down to feed in the paddocks on 2 occasions.

Starlings breed in small numbers but we expect a large influx in the area about the 3rd week of October, when they can usually be seen in silhouette in numbers on the electricity lines. A smaller number remains through the winter and parties are seen daily on their way to and from the roost. In 1972 an albino Starling was "taken into care" at Grange Farm. It had pink eyes, a yellowish bill and pale fleshy legs but otherwise the coloration was totally cream. Unfortunately it did not survive.

We usually see a few breeding pairs of Greenfinch, one or two of them in Birthorpe, and small winter flocks at Sempringham, but Goldfinch is scarcer and unobtrusive. We usually find a nest in our Sycamore after the leaves

are off but last year was the only year in which I recorded a family party. A small number of Linnets are found around the Hawthorn hedges and Redpolls visit the birches in late summer and autumn. I suspect, but have not proved, that they may nest in Cupressus Leylandii in Billingborough. I always used to say the Bullfinches moved up to Birthorpe in the winter following the removal of Blackthorn scrub by the beck, because about that time our Damson trees stopped giving us a crop: but beware of the undocumented approach! They were present even in the autumn of 1968, a pair was with us in the following breeding season and we do not often see them about. We have, however, had a succession of late cold springs. I used also to say that I had to go quite a distance to see a Chaffinch, but I find I recorded 150 flying over in 1968 and the following year there was a male singing in the spinney up the road. By 1970 I was recording a pair at Piper Dam Holt and 6 years later I was fairly sure that they were nesting with us. Incidentally, I have always understood that a Chaffinch had a immutable need for a songpost, and that without this it was unlikely to able to hold a territory. It was of interest, therefore, that on 5 March 1983 there was "our" male singing away on the lawn, from the ground. Since we do not usually see large finch flocks in the area 35 Brambling at Sempringham in 1976 was out of the ordinary and I had no other record for this species until Mr Joe Duddington picked up a dead one at the LNU Sempringham meeting -10 years later. I wonder if I have failed to cover the right area sufficiently.

I have a great affection for the Yellowhammer on account of its long song period as well as its beautiful colouring, and it is fairly widespread in the area. Its relative the Corn Bunting, with a song just as distinctive though very different is unusual in these tetrads. A bird which sang persistently in Birthorpe for a fortnight in 1982 was presumed to be an unmated bird. The Reed Bunting has given me cause for some concern. Up to 1971 it seemed to be breeding in even quite minor ditches all over the area. I then saw very few anywhere in South Lincolnshire until 1985, when they started to come back to Piper Dam Holt; but they are still far from common.

And so we come at the tail of the list to the sparrows. The House Sparrow is resident in larger numbers than is convenient for cereal growers, nesting in hedgerows as well as in buildings. Having learnt to cling to tit-feeding baskets they are rarely short of food and at the beginning of the winter I can usually count up to 40 in a 60-foot stretch of road from the window. The Tree Sparrow - a much neater little bird - was breeding in small numbers but fairly widely in the area up to 1978, when they were nesting in a tit-box at Old Mill Farm - a box with slightly too small an entrance hole, but they managed it. They then seemed to go into decline and I am delighted that I now have 2 records for 1988, one for Birthorpe, the other for Primrose Lane: I am just hoping that they do not both refer to the same actual individuals.

BUT - what about recording the 2 escapee Love-birds, whose cage fell apart in Billingborough in August 1985? They were very chatty when they reached Birthorpe, but were most unlikely to survive in the wild. All the same, they ought to go down, ought they not, just in case? Remember the Ring-necked Parakeets in Surrey!

Conclusion

I have dealt with birds in detail because they have always been my first love, but I owe much to the ecological approach of the ornithologists of the London Natural History Society, who set me off on the right lines so long ago. I must also acknowledge the great debt I owe to the LNU for what

its members have taught me and for identifying things for me. I am always conscious of the paucity of my natural history knowledge, but at least I am now, because of the LNU aware of many things that were undreamt of in my philosophy 20 years ago.

The sketch that I have offered you today has been made possible only with the help of many other people. I should like to thank in particular:

Messrs G Chapman and G M Newbury, who have allowed me to walk on their land; Messrs T Barnes, G A Bee, K Bentien, D Wesley and Mrs I Weston for records; visiting friends from outside Lincolnshire. - Mr & Mrs V F Hancock, Miss M E Kennedy and Mr & Mrs W G Teagle, and my sister Margaret Goom. If we have managed to provide any clues for future investigations of the wildlife of this area it will be because of these people - and of members of the Lincolnshire Naturalists' Union.

PLANTS MENTIONED IN THE TEXT

Red-leg	Polygonum persicaria
Elm	Ulmus procera
Elder	Sambucus nigra
Ivy	Hedera helix
Lime	Tilia platyphyllos (planted)
Primrose	Primula vulgaris
Marsh Marigold	Caltha palustris
Cowslip	Primula veris
Lady's Smock	Cardamine pratensis
Lesser Broomrape	Orobanche minor
Strawberry Clover	Trifolium fragiferum
Red Bartsia	Odontites verna
Chicory	Cichorium intybus
Self-heal	Prunella vulgaris
Yarrow	Achillea millefolium
Lady's Bedstraw	Galium verum
Field Madder	Sherardia arvensis
Harebell	Campanula rotundifolia
Black Medick	Medicago lupulina
Cow Parsley	Anthriscus sylvestris
Horse-radish	Armoracia rusticana
Cut-leaved Dead-Nettle	Lamium hybridum
Common Hemp-Nettle	Galeopsis tetrahit
Spurge Laurel	Daphne laureola
Common Agrimony	Agrimonia eupatoria
Swine-cress	Coronopus squamatus
Celery-leaved Buttercup	Ranunculus scelaratus
Blackthorn	Prunus spinosa
Hawthorn	Crataegus monogyna

BUTTERFLIES

Large Garden White	Pieris brassicae L
Small Garden White	Pieris rapae L
Green-veined White	Pieris napi L
Orange-tip	Anthocaris cardamines L
Brimstone	Gonepteryx rhamni L
Wall Brown	Pararge megera L
Meadow Brown	Maniola jurtina L

Ringlet	Aphantopus hyperantus L
Red Admiral	Vanessa atalanta L
Painted Lady	Vanessa cardui L
Peacock	Nymphalis io L
Small Tortoiseshell	Aglais urticae L
Comma	Polygonia c-album L
Small Copper	Lycaena phlaeas L

MOTHS

Buff-tip	Phalera bucephala L
[Buff Arches	Habrosyne pyritoides Hufn]
Common Vapourer	Ongyia antiqua L
Gold-tail	Euproctis similis Fuessl
White Satin	Leucoma salicis L
Empress	Saturnia pavonia L
Common Footman	Eilema inrideola Zinck
Ruby Tiger	Phragmatobia fuliginosa L
Buff Ermine	Spilosoma lutea Hufn
Common Swift	Hepialus lupulina L
Large Angle-shades	Phlogophora meticulosa L
Mullein Shark	Cucullia verbasci L
Red Underwing	Catocala nupta L
Plain Golden Y	Plusia jota L
Common Silver Y	Plusia gamma L
Blood-vein	Calothysanis amata L
Mottled Beauty	Alcis repandata L

OTHER INSECTS

Earwig	Dermaptera sp
[Hawthorn Shield Bug	Acanthosoma haemorrhoidale]
Lacewing	Chrysopa septempunctata
Caddis	Trichoptera sp
Hoverfly	Syrphidae sp
Bee	Bombus agrorum
Cuckoo Bee	Psithyrus campestris
Wasp	Vespula vulgaris
Hornet	Vespa crabro
Devil's Coach Horse	Ocypus oleus

WOODLICE

-	Oniscus asellus
-	Platyarthrus hoffmannseggi
-	Philoscia muscorum

MILLIPEDE Tachypodiolus niger

SNAILS

Garden Snail	Helix aspersa
Rounded Snail	Discus rotundatus

MAMMALS

Hedgehog	Erinaceus europaeus
Common Shrew	Sorex araneus

Pygmy Shrew	Sorex minutus
Water Shrew	Neomys fodiens
Mole	Talpa europaea
Pipistrelle	Pipistrellus pipistrellus
Rabbit	Oryctolagus cuniculus
Brown Hare	Lepus capensis
Short-tailed Field Vole	Microtus agrestis
Long-tailed Field Mouse	Apodemus sylvaticus
House Mouse	Mus musculus
Harvest Mouse	Microtus minutus
Grey Squirrel	Sciurus carolinensis
Brown Rat	Rattus norvegicus
Fox	Vulpes vulpes
Stoat	Mustela erminea
Weasel	Mustela nivalis
Fallow Deer	Dama dama

REPTILES

Grass Snake	Natrix natrix

AMPHIBIANS

Common Frog	Rana temporaria
Smooth Newt	Triturus vulgaris
Great Crested Newt	Triturus cristatus

BIRDS

Heron	Ardea cinerea
Mallard	Anas platyrhyncos
Sparrowhawk	Accipiter nisus
Rough-legged Buzzard	Buteo lagopus
[Goshawk	Accipiter gentilis]
Kestrel	Falco tinnunculus
Red-legged Partridge	Alectoris rufa
Partridge	Perdix perdix
Pheasant	Phasianus colchicus
Moorhen	Gallinula chloropus
Lapwing	Vanellus vanellus
Golden Plover	Pluvialis apricaria
Snipe	Gallinago gallinago
Woodcock	Scolopax rusticola
Curlew	Numenius arquata
Whimbrel	Numenius phaeopus
Green Sandpiper	Tringa ochropus
Common Sandpiper	Tringa hypoleucos
Redshank	Tringa totanus
Common Gull	Larus canus
Black-headed Gull	Larus ridibundus
Stock Dove	Columna oenas
Wood Pigeon	Columba palumbus
Turtle Dove	Streptopelia turtur
Collarded Dove	Streptopelia decaocto
Cuckoo	Cuculus canorus
Barn Owl	Tyto alba
Little Owl	Athene noctua
Tawny Owl	Strix aluco

Short-eared Owl	Asio flammeus
Swift	Apus apus
Kingfisher	Alcedo atthis
Green Woodpecker	Picus viridis
Great Spotted Woodpecker	Dendrocopos major
Wryneck	Jynx torquilla
Skylark	Alauda arvensis
Swallow	Hirundo rustica
House Martin	Delichon urbica
Carrion Crow	Corvus corone
Rook	Corvus frugilegus
Jackdaw	Corvus monedula
Magpie	Pica pica
Jay	Garrulus glandarius
Great Tit	Parus major
Blue Tit	Parus caeruleus
Coal Tit	Parus ater
Willow Tit	Parus montanus
Long-tailed Tit	Aegithalos caudatus
Nuthatch	Sitta europaea
Tree Creeper	Certhia familairis
Wren	Troglodytes troglodytes
Mistle Thrush	Turdus viscivorus
Fieldfare	Turdus pilaris
Song Thrush	Turdus philomelos
Redwing	Turdus iliacus
Blackbird	Turdus merula
Wheatear	Oenanthe oenanthe
Whinchat	Saxicola rubetra
Redstart	Phoenicurus phoenicurus
Robin	Erithacus rubecula
Grasshopper Warbler	Locustella naevia
Sedge Warbler	Acrocephalus schoenobaenus
Reed Warbler	Acrocephalus scirpaceus
Blackcap	Sylvia atricapilla
Garden Warbler	Sylvia borin
Whitethroat	Sylvia communis
Lesser Whitethroat	Sylvia curruca
Willow Warbler	Phylloscopus trochilis
Chiffchaff	Phylloscopus collybita
Wood Warbler	Phylloscopus sibilatrix
Goldcrest	Regulus regulus
Spotted Flycatcher	Muscicapa striata
Pied Flycatcher	Ficedula hypoleuca
Dunnock	Prunella modularis
Meadow Pipit	Anthus pratensis
Pied Wagtail	Motacilla alba
Grey Wagtail	Motacilla cinerea
Yellow Wagtail	Motacilla flava
Waxwing	Bombycilla garrulus
Starling	Sturnus vulgaris
Greenfinch	Carduelis chloris
Goldfinch	Carduelis carduelis
Linnet	Acanthis cannabina
Lesser Redpoll	Acanthis flammea
Bullfinch	Pyrrhula pyrrhula
Chaffinch	Fingilla coelebs
Brambling	Fingilla montifringilla

Yellowhammer	Emberiza citrinella
Corn Bunting	Emberiza calandra
Reed Bunting	Emberiza schoeniclus
House Sparrow	Passer domesticus
Tree Sparrow	Passer montanus

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1985 Supplement to the Flora of Lincolnshire by E Joan Gibbons and Irene Weston. Published Lincolnshire Naturalists' Union.

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REPORT OF THE HON GENERAL SECRETARY 1987

There has only been one formal meeting of the Executive since June. The business of the Society has been carried out through a number of smaller meetings to make arrangements for the publication of the Transactions, organisation of the programme and the preparation and manning of a display at the Lincolnshire Show. The Society owes a debt to some half dozen members who have given a considerable amount of time to keep things going. At the time of compiling this report it seems that there are several new people coming forward to take on responsibilities so that we can look ahead with optimism.

There were more difficulties than usual in bringing out the 1986 Transactions, due to changes with the secretarial agency, the printers and a lost manuscript. However, I hope members appreciate a production with a wider range of articles and full reports.

Membership has remained steady. Sadly a number of long standing members have died. New members are increasingly bringing a stimulus to the study within the County of the more neglected groups - in particular the invertebrates.

In April our Recorder Dr Mark Seaward came over to Gibraltar Point for a day to teach a course organized by the Hon General Secretary on lichens. The weekend was targeted at Reserve Managers of the Lincolnshire and South Humberside Trust for Nature Conservation who wished to expand their knowledge of their own reserves. It was well attended and much appreciated. There were several exciting new finds on the National Nature Reserve. The course is to be followed this year by one on grasses by Irene Weston.

The field programme for the year has illustrated the range of wonderful sites we have in the County. Ancient woods were seen at their best in spring and early summer at Goslings Corner, Newball, Sleights and Bourne Woods. The fungus foray in October at New Park and Austacre Woods had unfortunately

to be abandoned because of torrential rain. Contrasting wetland habitats were explored at Whisby Pits, Baston Fen and Terrington Marsh. The geological meeting covered several sites and started at the chalk grassland at Red Hill. The lepidoptera meeting at Kenwick Hall illustrated the range of wildlife which is cared for on some of the lovely estates we have in the County.

The indoor programme began early and was held in the south of the County at Bourne. The open meeting was at the Memorial Hall, North Hykeham and all others at the Bishop Grossteste College, Lincoln.

Although I have been unable to attend many meetings this year and much has been left to others, I have been able to keep up the correspondence which forms much of the Secretary's work. This is a regular exchange with other Societies, the answering of Natural History queries or the passing on of these to specialist help within the Society. This is the role I have enjoyed most. It constantly brings to one's attention that the tradition of the amateur naturalist is still alive and flourishing.

Jane Ostler BEd MIBiol

BOTANY 1987

Irene Weston

Nineteen eighty-seven has been a very busy year mainly due to the current Recording Schemes mentioned in the last Transactions and to the re-organization of records - the bulk of the latter being undertaken by Mr W M Peet - joint LNU botanical secretary. This was set up to co-ordinate the field records of the Union, the site records of the Trust and the recording schemes input and to produce a new set of master cards in keeping with the up-dated cards issued for the BSBI/NCC scheme. It has incorporated the name changes and puts in the ferns as a separate entity rather than dispersed throughout the card. We owe a great debt of gratitude to Mr Peet for his contribution particularly as the new master cards indicate instantly where there are gaps in the recording coverage.

Field Meetings 1987

Saturday 18 April - Newball Wood - TF 07

A very beautiful day and a list of 127 plants - one of the very ancient deciduous woodlands now partially re-planted with conifers: Small-leaved lime and hazel coppice with oak, ash, common and Midland hawthorn. Wood anemone was abundant and Mr V Knight found the first of a large colony of greater butterfly orchid. The main rides were churned up due to the wet weather and the woodland management as coppicing had been done in the preceeding weeks. The list included wood goldilocks, bluebells, lily of the valley, moschatel, greater stitchwort, yellow archangel, wood sorrel, early purple orchid, dog mercury, wood millet and wood forget-me-not. No new records.

Sunday 17 May - Mavis Enderby - TF 36

An area of wet grassland with many tree species recorded. Mr Peet's list of about 90 species included ragged robin - always scarce and a new square record for water horsetail Equisetum fluviatile.

Wednesday 27 May - Baston Fen - TF 11

This meeting entailed a walk along the length of the Nature Reserve and about 130 species were recorded including bladderwort, water violet, great water-sweet-grass, greater pond-sedge and fen comfrey. No new records were made on this event but a later meeting on 11 June of the BSBI monitoring party saw massed stands of greater spearwort, water stitchwort, some lesser water plantain and early marsh orchids and new records were made in the tetrad.

Sunday 14 June - Kenwick Hall - TF 38

Mrs Pennell sent a list of about 60 species including scaly male fern, the hybrid between white and red campion, ragged robin, wood sorrel, changing colour forget-me-not and a new square record for greater burdock.

Sunday 27 June - Sleights Wood - SK 92

A woodland with very open rides. Again a list of about 50 species from Mrs Pennell including the hybrid avens with both parents, both male and lady fern and greater butterfly orchid. No new records.

Saturday 25 July - Bourne Woods - TF 02

There were very few records to add to the substantial post-1980 list, but Mr Peet's list of 146 species included elegant St John's-wort and wood cudweed, a new square record.

Sunday 23 August - Terrington Marsh - TF 42

An extremely wet day put most members off but the afternoon saw clear skies on the marsh. Mrs Pennell's list included Poa subcaerulea and sea wormwood as well as the 2 salt marsh grasses Puccinellia maritima and P distans. The party was escorted by Mr R Lord, Warden.

Saturday 10 October - New Park/Austacre Woods - Fungus Foray

The rain really did prove too much for this expedition and the meeting was abandoned.

Recording Schemes 1987

1 The BSBI/NCC Monitoring Scheme - 1987 (First year)

The monitoring scheme is now well underway and the first computer print-outs for 1987 records are being received from Monks Wood. Mr Peet has co-ordinated our own records and the brief summary below indicates the state of play (January 1988).

10 km sq	Pre 1980	Post 1980-1986	1987 (Monitoring Records)
SE 80	547	460	393
* SK 84	361	162	184
* SK 87	553	448	354
* TF 11	487	350	411
TF 14	390	269	353
TF 17	544	429	413

10 km sq	Pre 1980	Post 1980-1986	1987 (Monitoring Records)
* TF 41	326	151	239
TF 44	259	256	177
TF 47	489	392	452
TA 10	484	295	430
TA 40	173	166	154

The symbol * indicates that the square is a shared one with a neighbouring County and therefore the species number is not confined to Lincolnshire, but a total one for the square. The post 1980 number is indicative of Lincolnshire species only as are the Monitoring Records.

As the 1987 recordings were part of a 2-year plan and recording in some cases was based on the AJW tetrads or "JAW's" complex, it is hoped that remaining records can be picked up in 1988. My thanks are due to the many recorders who have so far helped in the survey - some of whom took on whole squares or individual tetrads. Recorders for the monitoring scheme include: Rev R Addington, Mrs D J Adams - (SK 87), Mr & Mrs A Binding, Ms K Buckly, Mrs D Brookman, Mrs M Butroid, Mrs R Everatt, Mr R Goy, Miss C Godfrey, Mr A Gray (NCC), Miss J Garlick, Mrs K Heath - (TF 41), Mr W G Hoff, Miss Z Harris, Ms P Kerrigan - (TF 44), Miss J Knibb, Mr F Lammiman - (TA 10), Ms R Nickerson - (SK 87), Mr W M Peet - (TF 47), Mrs V Pennell - (TF 14), Miss S Peay, Mr J Redshaw - (TF 11), Mr B Redman - (TF 44), Mr T Rich (National Co-Ordinator NCC/BSBI), Miss H Stace (NCC), Mr N Stewart (CABS), Mr K Stephenson, Mrs V Wilkin - (SE 80), Mr K Wilson - (TA 10), Mrs I Weston - (TF 17 & TA 40).

The BSBI Monitoring weekend was held at Riseholme and from there recording was done in a selection of the squares. The LNU meeting at Baston Fen was used as a special monitoring occasion.

Thanks are due to the many farmers and landowners who have allowed access to their land and who have been most interested in the recording schemes. Without their co-operation this first year's progress would not have been possible.

2 The River Survey 1987

The River Survey by the East Anglian Water Authority set up by Dr Tim Coles with Ms J Southey (Eco Surveys Ltd) won one of the Royal Society of Arts, Better Environment for Industry Awards. It was one of 2 British projects placed in the highly commended category by "The European Year of the Environment Committee" in Brussels. The Water Authority are computerizing their botanical and ornithological results which will be sent to BSBI and BTO and thus will come back to County records. One new County record emerged from the survey - Potamogeton trichoides from Bardney, which was also later recorded in South Humberside. A further survey is being promoted in 1988.

3 The Post 1980 Lincolnshire Plant Atlas

Records are still needed from many 10 km squares, in particular those not covered by the last 2 projects. I should be grateful for any records made in 1988.

Records 1987

New records were received for the 10 km squares. Order of records SK (43), SE (44), TF (53), TA (54).

NVCR = New Vice County Record
VC 53 = (South Lincs)
VC 54 = (North Lincs)

P = Planted
I = Introduced

All records 1987 unless otherwise stated.

SK (43)

SK (43)	83	Lemna gibba	K Buckley
	84	Calystegia x Howittiorum	N Lewis (Notts Trust) NVCR 1986 VC 53
		Equisetum fluviatile	I Weston, R Nickerson
		Carduus nutans	I Weston, R Nickerson
		Elodea nuttallii	I Weston, R Nickerson
		Ranunculus trichophyllus	I Weston, R Nickerson
	87	Anthemis arvensis	D J Adams, R Nickerson
		Hedera helix var hiberica	D J Adams, R Nickerson
		Lactuca serriola	D J Adams, R Nickerson
		Pastinaca sativa	N F Stewart, H E Stace P Kerrigan
		Potamogeton berchtoldii	N F Stewart, H E Stace P Kerrigan
		Puccinellia distans	T Rich, I Weston
		Ranunculus peltatus	R Addington
		Ranunculus trichophyllus	N F Stewart, H E Stace, P Kerrigan
		Reseda lutea	D J Adams, R Nickerson
		Scabiosa columbaria	W M Peet, D Brookman
		Sedum album	W M Peet, D Brookman
		Stellaria neglecta	D J Adams, R Nickerson
		Thalictrum minus	D J Adams, R Nickerson
		Tilia vulgaris	D J Adams, R Nickerson
		Trifolium scabrum	D J Adams, R Nickerson
		Symphytum asper	D J Adams, R Nickerson
		Veronica becca-bunga	I Weston, R Nickerson
	88	Acorus calamus	J Knibb, R Everatt
		Corydalis claviculata	J Knibb, R Everatt
		Papaver somniferum	J Knibb, R Everatt
	95	Elodea nuttallii	V Pennell
		Linum bienne	V Pennell
		Equisetum x litorale	V Pennell
		Festuca tenuifolia	V Pennell
		Lathyrus tuberosus	V Pennell
		Rumex palustris	V Pennell
		Verbascum virgatum	V Pennell, C Godfrey
		Papaver hybridum	V Pennell, C Godfrey
	96	Lamium hybridum	W M Peet

SK (43)	96	Onopordum acanthium	W M Peet
		Eleogiton fluitans	N F Stewart
		Pilularia globulifera	N F Stewart (2nd site) VCR (53) (3rd site) I Weston
		Papaver hybridum	V Pennell
	97	Datura stramonium	A Heaton
		Petroselinum segetum	D J Adams
		Rumex maritimus	I Weston

SE (44)

SE (44)	71	Crassula helmzii	M Wingfield
	80	Asplenium ruta-muraria	R Addington
		Avenula pubscens	V Wilkin
		Callitriche hamulata	V Wilkin
		Callitriche hermaphroditica	V Wilkin
		Corydalis lutea	R Addington
		Carex pilulifera	V Wilkin
		Chaenorhinum minus	V Wilkin
		Eleogiton fluitans	V Wilkin
		Epilobium tetragonum	V Wilkin
		Nasturtium hybrid	T Rich
		Ranunculus peltatus	R Addington
		Ranunculus trichopyllus	R Addington
		Salix cinerea	R Addington
		Schoenus tabernaemontanii	V Wilkin
		Symphoricarpus rivularis	V Wilkin
		Symphytum x uplandicum	V Wilkin
		Veronica filiformis	V Wilkin
	90	Potamogeton coloratus	H F Stace
		Ranunculus trichophyllus	H F Stace

TF (53)

TF (53)	00	Anthriscus caucalis	P Cooke
		Chenopodium polyspermum	P Cooke
		Eranthis hyemalis	P Cooke
		Galeopsis angustifolia	P Cooke
		Polypodium vulgare	P Cooke
	01	Cerastium tomentosum	P Cooke
		Descurainia sophia	P Cooke
		Eranthis hyemalis	P Cooke
		Galeopsis speciosa	P Cooke
		Symphoriocarpus rivularis	P Cooke
	02	Gnaphalium sylvaticum	W M Peet

The following records were mostly made at the group LNU and BSBI meetings in TF 11. (Leaders of groups named.)

TF (53)	11	Anthriscus caucalis	I Weston et al
		Atropa belladonna	T Rich et al
		Brassica napus	T Rich et al

TF (53)	11	Bromus erectus	T Rich et al
		Carex pendula P	I Weston et al
		Desmazeria rigida	E J Redshaw, T Rich
		Dryopteris dilatata	T Rich et al
		Fagopyrum esculentum	I Weston et al
		Heracleum mantegazzianum	I Weston et al
		Hesperis matronalis	I Weston et al
		Inula conyza	T Rich et al
		Lepidium campestre	W M Peet
		Mercurialis annua	T Rich et al
		Nasturtium x sterile	T Rich et al
		Ophrys apifera	I Weston et al
		Phleum arenarium	I Weston et al
		Picris hieracioides	W M Peet et al
		Ranunculus penicillatus	W M Peet et al
		Polygonatum cuspidatum	I Weston et al
		Potamogeton coloratus	E J Redshaw
		Salix cinerea	E J Redshaw
		Silene dioica	T Rich et al
		Sinapsis arvensis	T Rich et al
		Valerianella locusta	W M Peet et al
		Veronica filiformis	T Rich et al
		Viburnum opulus	T Rich et al
		Vulpia bromoides	T Rich et al
	13	Carex spicata	T Smith
	14	Agrostis canina	V Pennell
		Brassica rapa	V Pennell
		Campanula rapunculoides	V Pennell
		Cardamine flexuosa	T Smith
		Carex acuta	V Pennell
		Callitriche hamulata	T Smith
		Eupatorium cannabinum	V Pennell
		Filipendula vulgaris	V Pennell
		Glyceria declinata	V Pennell
		Holcus mollis	V Pennell
		Lamium amplexicaule	V Pennell
		Lamium hybridum	V Pennell
		Lythrum portula	V Pennell
		Pimpinella saxifraga	V Pennell
		Prunus avium	V Pennell
		Salix purpurea	V Pennell
		Sanguisorba minor	V Pennell
		Stellaria holostea	V Pennell
		Silene dioica	V Pennell
		Silene noctiflora	V Pennell
		Sinapsis alba	V Pennell
		Trifolium arvensis	V Pennell

Mrs Pennell has also recorded Carex and Symphytum from this square.

TF (53)	16	Centaurea scabiosa	W M Peet
		Knautia arvensis	W M Peet
	17	Azolla filiculoides	I Weston
		Agrostis gigantea	W M Peet
		Acer platanoides	R Addington

TF (53)	17	Lamium hybridum	R Addington	
		Elodea nuttallii	I Weston	
		Potamogeton pectinatus	I Weston, conf C Preston	
		Potamogeton perfoliatus	I Weston, conf C Preston	
		Potamogeton pusillus	I Weston, conf C Preston	
		Potamogeton trichoides	I Weston, conf C Preston NCVR VC 54	
	22	Epipactis helleborine	D Thomas by correspondence	
		Vicia tetrasperma	D Thomas by correspondence	
	28	Agrimonia eupatoria	K Wilson 1986	
		Legousia hybrida	K Wilson 1986	
		Papaver somniferum	K Wilson 1986	
		Veronica catenata	K Wilson 1986	
	32	Crataegus oxycanthoides	Trust team	
	35	Montia perfoliata	Trust team	
	36	Equisetum fluviatile	W M Peat	
	38	Arctium lappa	V Pennell	
		Castanea sativa	K Wilson	
		Geranium pratense	K Wilson	
		Potamogeton berchtoldii	K Wilson	
	39	Ammi majus	K Wilson, F Lammiman	
		Azolla filiculoides	K Wilson, F Lammiman	
		Carex paniculata	K Wilson, F Lammiman	
		Erigeron canadensis	K Wilson, F Lammiman	
		Vulpia bromoides	K Wilson, F Lammiman	
	41	Alnus glutinosa	K Heath	P
		Alopecurus pratensis	T Rich	
		Anacamptis pyramidalis	K Heath	
		Artemesia maritima	T Rich	
		Brassica juncea	T Rich	
		Brassica napus	T Rich	
		Brassica rapa	T Rich	
		Cardamine hirsuta	T Rich	
		Castanea sativa	K Heath	P
		Cerastium tomontosum	T Rich	
		Chenopodium bonus-henricus	T Rich	I
		Crassula helmzii	T Rich	
		Geranium lucens	K Heath	
		Geranium pyrenaicum	K Heath	I
		Heracleum mantegazzianum	T Rich	
		Listera ovata	K Heath	
		Myosotis discolor	R Addington	
		Picris echioides	K Heath	
		Potamogeton pectinatus	T Rich	
		Ranunculus trichophyllus	T Rich	
		Rorippa sylvestria	T Rich	
		Salix caprea	K Heath	
		Silybum marianum	K Heath	
		Sorbus aria	K Heath	P
		Sorbus aucuparia	K Heath	

TF (53)	41	Stellaria gramineum	K Heath	
		Symphytum x uplandicum	K Heath	
		Thlaspi arvensis	T Rich	
		Triglochin maritima	K Heath	
		Valerianella locusta	K Heath	
		Veronica filiformis	K Heath	
		Vicia hirsuta	K Heath	
		Viola tricolor	K Heath	
	42	Picris echioides	V Pennell	
		Poa subcaerula	V Pennell	
	44	Acer campestre	W M Peet	
		Filipendula ulmaria	W M Peet	
		Torilis nodosa	W M Peet	
		Tragopogon pratensis	W M Peet	
		Lycium chinense	B Redman	
		Nymphoides peltatus	W M Peet	
		Salicornia dolichostachya	P Kerrigan	
		Salicornia europaea	P Kerrigan	
		Salicornia ramosissima	I Weston, B Redman	
	46	Epilobium roseum	W M Peet	
		Ranunculus fluitans	W M Peet	
	47	Agrostis gigantea	W M Peat	
		Aira praecox	W M Peet	
		Cardaria draba	W M Peet	
		Carex elata	W M Peet	
		Carex pseudocyparus	W M Peet	
		Cerastium semidecandrum	W M Peet	
		Dactylorrhiza maculata subsp ericetorum	W M Peet	
		Daphne laureola	W M Peet	
		Digitalis purpurea	W M Peet	
		Eranthis hyemalis	W M Peet	
		Erigeron acer	W M Peet	
		Groenlandia densus	W M Peet	
		Impatiens glandulifera	W M Peet	
		Myosotis discolor	W M Peet	
		Myosotis ramosissima	W M Peet	
		Papaver dubium	W M Peet	
		Polygonum lapathifolium	W M Peet	
		Potamogeton pusillus	W M Peet	
		Prunus padus	W M Peet	
		Ranunculus fluitans	W M Peet	
		Ribes sanguineum	W M Peet	
		Sedum album	W M Peet	
		Symphytum officinale	W M Peet	
		Torilis nodosa	W M Peet	
		Veronica filiformis	W M Peet	
		Vinca major	W M Peet	
		Viburnum lantana	W M Peet	P
	49	Botrychium lunaria	G Weaver NCC	
		Equisetum x litorale	I Weston, conf N Hands	
TF (53)	56	Carex elata	W M Peet	

TF (53)	56	Carex pseudocyparus	W M Peet
		Malva moschata	W M Peet
		Potamogeton natans	W M Peet
		Potamogeton pusillus	W M Peet

TA (54)

TA (54)	02	Potamogeton pectinatus	C D Preston, N F Stewart, H E Stace
		Potamogeton pusillus	C D Preston, N F Stewart, H E Stace
		Potamogeton trichoides	C D Preston, N F Stewart, H E Stace 2nd VCR VC 54
TA 10		Dryopteris oreopteris	K Wilson, R Nickerson J Knibb
		Alopecurus mysuroides	F Lammiman, K Wilson
		Armoracia rusticana	F Lammiman, K Wilson
		Artemisia absinthium	F Lammiman, K Wilson
		Bromus commutatus	R Nickerson, D J Adams, J Knibb
		Bromus lepidus	T Rich, N Stewart, I Weston
		Butomus umbellatus	F Lammiman
		Centranthus ruber	F Lammiman
		Chenopodium rubrum	V Wilkin, M Butroid
		Crepis biennis	F Lammiman, K Wilson
		Cretaegus monogyna x laevig	T Rich, N Stewart, I Weston
		Digitalis purpurea	F Lammiman, K Wilson
		Elodea canadensis	F Lammiman
		Epilobium tetragonum	F Lammiman
		Epilobium obscurum	F Lammiman
		Glyceria declinata	W Dixon
		Heracleum mantegazzianum	K Wilson
		Hypericum montanum	K Wilson, R Nickerson, J Knibb
		Isolepis setacea	I Weston, T Rich, N Stewart
		Juncus acutiflorus	I Weston, T Rich, N Stewart
		Lamium hybridum	F Lammiman, K Wilson, I Weston
		Ligustrum ovatum	F Lammiman, K Wilson
		Linaria purpurea	F Lammiman, K Wilson
		Lolium multiflorum	I Weston
		Mahonia aquifolia	F Lammiman, K Wilson
		Myosotis sylvatica	F Lammiman, K Wilson
		Myriophyllum spicatum	F Lammiman, K Wilson
		Nasturtium microphyllum	T Rich
		Nasturtium x sterile	T Rich
		Papaver somniferum	F Lammiman, K Wilson
		Prunus avium	F Lammiman, K Wilson
		Rhododendron ponticum	F Lammiman, K Wilson, I Weston
		Salix fragilis x alba	I Weston, T Rich, N Stewart
		Salix cinerea	I Weston, T Rich, N Stewart
		Rumex hydrolapathum	F Lammiman
		Trifolium hybridum	T Rich
		Tripleurospermum inodora	T Rich
		Veronica filiformis	T Rich
		Vinca major	F Lammiman
		Viola hirta	F Lammiman

TA 10	Viola tricolor	F Lammiman	
	Vulpia bromoides	F Lammiman	
	Sorbus torminalis	F Lammiman	P
TA 20	Cirsium acaule	K Wilson	
	Foeniculum vulgare	K Wilson	
	Potamogeton pectinatus	K Wilson	
	Typha angustifolia	K Wilson	
TA 30	Myosoton aquaticum	K Wilson	
TA 40	Carex otrubae	I Weston	
	Desmazeria rigida	I Weston	
	Festuca juncifolia	T Rich	
	Juncus ambiguous	T Rich det T A Cope	
	Parapholis strigosa	I Weston	
	Valeriana officinalis	T Rich	

Corrections to 1986 records. **Please delete Ranunculus lingua TF 47.**

My thanks are due to all who have continued to send in records and the list of recorders is as Transactions 1986.

Plant Notes — Irene Weston

Of historical interest, Mrs Ostler forwarded a note from Mrs Audrey Evans of Penarth listing the plants of Jericho Woods (1946) and surrounding areas - about 450 species including bird's-nest orchid, frog orchid and the then, very rare Galinsaga parviflora. Also by correspondence 2 interesting reports - one from Mr David Thomas of Essex with a record of Epipactis helleborine from Spalding and one from Mr Norman Lewis (Notts Trust Conservator) with confirmation of his 1986 find of Calystegia x howittiorum at Long Bennington - SK 84. This is a County first for us, but it was a British first for RCL and Brenda Hewitt, the late Notts recorders who halped so much with the Lincolnshire square recording of the 50's. They found it in Queens Road, Newark and it was named after both of them.

This year the Lincolnshire Trust Team visited a large number of sites, recording a good population of frog orchid with adder's-tongue fern in an old meadow near Osgodby. These were not new square records, but showed the desirability of continuous recording even in well worked areas. Two new sites for the rare Pilulifera globulifera (pillwort) were found in the Whisby sand and gravel complex - emphasizing the importance of this area so rich in mosses, lichens and other rare water plants. A site of great ecological interest. The owners, Messrs Fear of Robert Teal's Ltd are much interested in the conservation of the site.

Another interesting small fern Botrychium lunaria (moonwort) c 30 plants - has been found at Saltfleetby NNR by Graham Weaver the NCC Warden and this area surpassed itself in 1987 with its now annual display of marsh and spotted orchids with hybrids.

Aquatics have again proved interesting. Potamogeton trichoides, hair-like pondweed has been found new to Lincolnshire at 2 sites and Crassula helmzii continues to spread (see SE 71). Mr Redshaw recorded Potamogeton coloratus

from Thurlby Slipe Side Drain and Miss Stace recorded it from Hibaldstow.

Arable weed records of the rarer species are intermittant, but Silene noctiflora has been recorded by Mr Peet, Mr Lammiman and Mr Wilson, Mrs Pennell and Mr Redshaw in their squares and from a beet field by Mr R Weston at Caythorpe. Mr Lammiman and Mr Wilson sent in many records including a new Lincolnshire first - Ammi majus (bullwort) - an umbellifer which is an uncommon casual in Britain. Mrs D J Adams grubbed out a hedge in her garden and later recorded a good population of Petroselinum segetum (corn parsley) - an umbel listed in the IUCN (Internation Union for Conservation of Nature and Natural Resouces) list, which is under threat in Europe as a whole and now rarely seen in Lincolnsire.

The first bee orchid for TF 11 was found near Baston Fen this year and good stands of fringed water-lily at Langtoft Pits. Mrs Kay Heath in TF 41 recorded populations of approximately 120 pyramid, 50 twayblade and 4,550 common spotted orchids in a river bank!! Not a bad year!

Lincolnshire Botanical Records — W M Peet

The "Outline Flora of Lincolnshire" by F A Lees was published in the 5th Edition of White's Directory 1892. This was succeeded by a series of 14 articles in "The Naturalist" 1894 - 1897 and 1900 by the Rev E A Woodruffe-Peacock as "A Critical Catalogue of Lincolnshire Plants - from all known sources". These entries were based on plants found in the 2 Watsonian Vice-Counties S and N Lincs and the Critical Catalogue also indicated the numbers of parishes where species were recorded, being based on Rev Woodruffe-Peacock's Locality Register.

After the publication in 1895 of the "Sketchmap of Soils and Natural History Divisions of Lincolnshire", the first "Checklist of Lincolnshire Plants" appeared as LNU Transactions 1909 Part 1. This listed the known distribution of species in the 18 Natural History divisions of the 2 Vice-Counties 53 S Lincs and 54 N Lincs. The original book with its 18 columns is still with the Union's records. The same system was used in the 1974 edition of the Lincolnshire Flora, E J Gibbons, and the Supplement of 1985, E J Gibbons and I Weston.

The national Plant Atlas, proposed in the late 1940's and the post-war availability of OS maps with the new 10 km square grid overlay, introduced a much more detailed system. Species were recorded on small 8" x 5" cards each printed with 940 botanical names for ticking off, etc and this system was running in conjunction with the old one, giving not just 18 divisions but 90 10 km squares.

In 1980, with the appearance in some other counties of the now familiar 10 km "dot" atlases showing up-to-date County plant distribution, it was felt there would eventually be a demand for such a production by the Union. A start was made on a new master card for each 10 km square with a baseline of 1980 together with a more permanent ledger showing pre-1980 and post-1980 records.

In 1987 the NCC and the BSBI introduced the Monitoring Scheme with up-to-date recording cards incorporating 100 changes to the old card and adding a further 60 species giving over 1,000 names on enlarged cards. We have therefore produced our own grand master card with 3 columns showing pre-1980 records, 1980-1986 records and records from 1987 to tie in with the monitoring scheme.

In order to check the original somewhat faded sheets used in the National Atlas, the Biological Records Centre kindly supplied a computer print-out of pre-1980 records which totalled 33,000 entries. these have been checked to the new ledger and new master cards, as was all available hard copy from around 1930.

The result is a ledger showing the distribution of each species across the County and derived from it and with 1987 records added on, a master record for each 10 km square in the County with purely Lincolnshire records for squares which spread over 2 Counties. A comparison of the 3 columns quickly shows where recent square coverage is not yet adequate for the future production of an up-to-date County Atlas. At the end of all this work which took many months, the simple counting of the 75,806 entries on these new master cards took over 8½ hours!

BRYOLOGY AND LICHENOLOGY

M R D Seaward

The following divisional records, all made during 1987, include 4 new County records (one of which, Opegrapha demutata, is new to Britain) plus 4 new vice-County records. In addition, a considerable number of 10 km x 10 km grid records have been added to the national lichen computer database at Bradford University. A revised progress map of lichen recording will appear in the next issue of Transactions. I am most grateful to Mrs M Cayton, Dr C J B Hitch, Mr F R Kammance and Mr C Hutchinson for their valuable fieldwork and records.

Mosses:

Aloina rigida (Hedw.) Limpr. 13
Aulacomnium androgynum (Hedw.) Schwaegr. 8
Barbula cylindrica (Tayl.) Schimp. 18
Bryum rubens Mitt. 8
Grimmia apocarpa Hedw. 18
Plagiothecium curvifolium Schlieph. ex Limpr. 11

Lichens:

Agonimia tristicula (Nyl.) Zahlbr. 15, 16 (Stamford churchyard, MRDS)(VCR)
Aspiclia calcarea (L.) Mudd. 10
Buellia punctata (Hoffm.) Massal. 13
Caloplaca isidiigera Vezda. 15, 16 (Stamford churchyard, MRDS)(NCR)
C variabilis (Pers.) Müll. Arg. 15 (Great Ponton churchyard, CJBH)(NCR)
Dimerella diluta (Pers.) Trevisan. 11 (Gibraltar Point, MRDS)(VCR)
Hypogymnia tubulosa (Schaerer) Havaas. 11
Lecania erysibe (Ach.) Mudd. 16
Lecanora albescens (Hoffm.) Branth & Rostrup. 9, 11
L crenulata (Dickson) Hook. 13
Lecidea fuscoatra (L.) Ach. 13 (Branston churchyard, MC & MRDS)(VCR)
Opegrapha cinerea Chev. (= O vulgata auct.) 11
O demulata Nyl. 11 (Gibraltar Point, MRDS)(NCR - New to Britain)
Parmelia saxatilis (L.) Ach. 10
Physconia enteroxantha (Nyl.) Poelt. 11
Placynthiella icmalea (Ach.) Coppins & P James. 11 (Gibraltar Point, MRDS)(NCR)

Ramalina baltica Lettau 11
Rinodina teichophila (Nyl.) Arnold 13
Scoliciosporum umbrinum (Ach.) Arnold 11, 16
Trapelia involuta (Taylor) Hertel 11 (Gibraltar Point, MRDS)(VCR)
T placodioides Coppins & P James 13 (Branston churchyard, MC & MRDS)(VCR)
Usnea subloridana Stirton 11
Verrucaria glaucina Ach. 13

MYCOLOGY REPORT FOR 1987

H. J Houghton

The year 1987 was a reversal of the arid conditions appertaining in 1986. It was wet and cool (or cold!) for the most part. Fungi were therefore plentiful during most of the year after the cold start. A few early frosts in late October and early November checked the numbers, but afterwards many specimens were seen even until January and February 1988.

The normal meetings of the Union produced reasonable quantities as follows:

On the 18 April, 10 species were recorded at Gosling's Corner Wood (TF 17) and Newball Wood (TF 07), giving 3 more grid square records. Fomes fomentarius was collected at both sites.

Of the 9 identifications made at Baston Fen, which was flooded at the time, one, a coelomycete called Trimmatostroma salicis on dead Salix twigs, was a new County record, and the other 8, including a large specimen of the bracket fungus Laetiporus sulphureus and the stripe smut Ustilago longissima on the grass Glyceria maxima, were new for TF 11.

The meeting at Kenwick Hall (TF 38) was more productive, and 48 species were recorded, 17 of which were new for TF 38, a well-worked square, and the rest were of course new for the site, which had not been visited before. Trimmatostroma salicis was found again here, and the leaves of Buckthorn saplings near the car park were blotched with the bright orange aecidia of the rust Puccinia coronata. The jelly fungus Calocera pallidospathulata was present on Conifer wood, and Xylaria carpophila was found in quantity on Beech mast.

At Sleight's Wood on the 21 June, we were handicapped by strict instructions not to stray from the rides on account of the game chicks present, but 16 species were recorded, 7 being new for SK 92 and the rest new for the site, which also had not been visited previously. Most were common species, but there were 2 excellent specimens of Amanita pantherina under a wild Service tree, and this species is rare in the County.

Only 13 species were recorded in Bourne Woods in TF 02 on the 27 July, no doubt due to the dry spell at the time. The rust Melampsora epitea (Uredo-stage) was new for TF 02, and the smut Ustilago segetum v avenae was found on Arrhenatherum elatius. Several specimens of the bolete Suillus grevillei were found in a Larch plantation.

It was again dry for the geology meeting on the 12 September in the Wolds. Of common species 9 were recorded, 5 being new Grid Square records, and the rest new for the sites involved.

The Fungus Foray on the 10 October at New Park Wood was a failure for the first time since the writer has been attending forays. Some 24 hours of rain preceded the meeting, and heavy rain during the meeting caused those present to abandon it, since the rides were practically awash. A few fungi were found at the entrance, but nothing of note. Six records were new for TF 17, and 5 others were new for the site.

Numerous sites have been visited by small groups of members, particularly those sites which have not (or only infrequently) been visited in the past, for example Bradley Wood near Grimsby, Whisby Pits, Haxey Turbary, Foxhills Wood near Scunthorpe, Normanby Park and Gosling's Corner Wood. Several forays have been led for various Trust groups. A large number of new records have therefore ensued, too numerous to detail here, but the following figures will give an idea of the activity which has been involved:

Number of new County Records	11
Number of new 10 km Square Records	406
Number of new Site Records	313
Total	730

Some interesting finds can be detailed as follows:

Since very few fungi were found at a Union meeting at Whisby Pits in a dry period on the 9 May, advantage was taken of wet conditions on the 28 October and the 4 November to pay a re-visit, since the reserve is new. Although the habitat consists of almost neat sand, 98 identifications were made on the former date and 50 further on the second date, resulting in 2 new County records, 37 new records for the very well worked SK 96 and 73 new site records, including 8 Cortinarius species, 9 Mycenas and 5 Lactarii. There were, however, very few Russulas present.

Burton Pits was visited on the 23 and the 30 September, and despite the fact that the Pits are one of the most intensively 'worked' sites in the County, we were able to add one new County Record, 14 new for SK 97 and 7 new site records. The tiny Nidularia farcta, a very rare 'Bird's Nest' fungus was again present.

The writer of this report was able to accompany Mr C Hutchinson and his 6th Form pupils on a visit to Gosling's Corner Wood, a new Trust reserve, late in September. In a dry period, 56 species were identified, 9 being new for TF 17 and 27 new to the site. We were not, however, able to re-discover the very rare Polyporus umbellatus, which was found here as the third record for Britain in 1973.

Mr J Rowe, Mrs D Hallewell and the writer of this report visited Bradley Wood near Grimsby in August. The last records we had previously were during a meeting by the Union at the turn of the century, and present then were Sir H C Hawley, Charles Crossland and their friends. The result was encouraging, 52 species being recorded, 39 being new for TA 20, 4 also new for the site, and the rest had been recorded all that long time ago.

Several new sites have been added to the list for the bracket fungus Fomes fomentarius, Betula species being the host in all cases. The number of such sites has now reached 38!

Mrs Weston has sent in a number of specimens this year, and one of them proved to be a new record for the County. It was a rust on the common Agrimony,

namely Pucciniastrum agrimonii, and was found at Langtoft Pits in TF 11.

A Weeping Willow tree in the writer's own garden had had an infestation on the ends of living twigs and leaves for several years. The cause was found to be the conidial (Marssonina) state of the ascomycete Drepanopeziza sphaerioides. Although this species is apparently common on that habitat, it was a first for the County.

In October, the writer had a request to identify a fungus growing on fuel in a Coal Bunker near the Brayford in Lincoln. It proved to be an all-white form (grown in the dark) of the mycelial strings and fruiting tubes of the apparently now quite rare Fibuloporia vaillantii, which was growing on the wooden back and also on the fuel ovals themselves. It had not been recorded previously in the County.

The Arboretum in Lincoln has produced a number of specimens this year and Mrs Rowe collected some specimens of the poisonous Agaricus xanthodermus, or the Yellow Stainer, from a lawn in August.

More than usual Geastrum species (Earth Stars) have been found this year. G triplex was found at Green Man Wood, Saltfleetby and Gibraltar Point; G pectinatum was collected in a garden at Osgodby, and 7 specimens of G striatum were found in Normanby Park, near Scunthorpe under mature Pine and Yew.

Apart from the masses of specimens produced annually by Mr & Mrs J Rowe and Mr K Rowland, the following members (and others) have brought or sent in specimens for identification this year:

Mrs I Weston, Mrs D Hallewell, Mrs K Heath, Mrs J Ostler, Miss F M Anderson, and Messrs R Johnson, M Houghton, C Hutchinson, M Barke, R B Scargall, P Foster, V Knight, P Wilson and M Elmore. These specimens included approximately 90 new records of one sort or another, and we are indebted to the people concerned.

Our thanks are due again this year to Dr D A Reid of Kew Herbarium for identifications of difficult fungi and to Dr B Ing of Chester for identification of Myxomycetes. Dr Reid retired in September last, and we wish him well in his retirement. Dr G M Waterhouse also continues to deserve our thanks for her ever present encouragement, despite her advancing years.

No new County Records were made this year at the annual Foray, but a list is appended of such records from other sources:

Date	Map Ref	Site	Species and Habitat
27/5	TF 1417	Baston Fen	Trimmatostroma salicis on Salix sp
1/6	SK 8386	Garden in Lea	Drepanopeziza sphaerioides (Marssonina salicicola (Bres.) State) on Salix sp
23/7	TF 1111	Langtoft Pits	Pucciniastrum agrimonii (Diet.) Tranz. Stages II & III on A eupatoria
17/8	TF 1388	Willingham Woods	Erysiphe ulmariae Desm. on F ulmaria
20/9	TF 2263	Moor Farm Res	Nolanea hirtipes (Schum.) Kumm. In grass under Quercus sp
27/9	TF 3268	Snipe Dales	Conocybe ochracea (Kuhn) Singer in grass
14/10	TF 0159	Green Man Wood	Clavariadelphus junceus Fr. on dead wood

22/10	SK 9474	Burton Pits	Hygrocybe strangulata Orton in short grass
23/10	SK 9671	Lincoln	Fibuloporia vaillantii (DC) Bond. and Sing. On wood & fuel ovals in darkness
28/10	SK 9167	Whisby Pits	Cortinarius purpureobadius Karst Under Betula sp on Sandy Soil
4/11	SK 9167	Whisby Pits	Russula albonigra (Krombh.) Fr. near Salix sp on bare sand.

VERTEBRATE ZOOLOGY

M Johnson

Mammals

In spite of a thorough search in all suitable woodlands in recent years, records on red squirrels have ceased altogether and the red squirrel seems to have vanished from our County.

The grey squirrel, however, continues to increase its numbers in all parts of the County. Brown hares seem to have started their courtship late this year for all the records on chasing and boxing activities were observed during the month of April.

Weasels were again reported from all parts of the County. One stoat was observed hunting for birds high in the upper branches of an oak tree on Roughton Moor on 4 May and another was watched by J Duddington and R Johnson as it dragged a mole across a road on 2 July.

A number of records of hedgehogs being killed on the roads have been received, the first corpse being found on 15 April. On 16 April numerous young rabbits were seen on West Ashby Pits and a number of active water voles were observed on the pitsides the same day. During May Mr G Eley reported the sighting of an albino fox near Navenby. A number of bat records mainly on pipistrelle and long-eared bats were passed on to the bat group for investigation. One report, however, referred to a cat which had taken to catching and killing noctule bats in Hartsholme Park. Another noctule bat was rescued after it had flown into a house at Hatton.

Reptiles and Amphibians

Adders and grass snakes reported from Kirkby Moor and Scotton Common.

It has been an excellent year for amphibian records, the first frog spawn was reported on 25 March. Later buckets full of frog spawn were collected from several garden ponds in the Lincoln, Reepham and Bardney area and ferried out by car to a nature reserve pond. During April I found numbers of toads present in several ponds where they had not been seen for years and during the same month Mr A Cunnington reported very large numbers that he had observed gathering to spawn in ponds near the Sudbrooke Park area.

LEPIDOPTERA REPORT 1987

Rex Johnson MEd FRES

A good number of butterfly records were received from LNU members for 1987. Some of these were from members who are also British Butterfly Conservation Society members, and through co-operation with Alan Binding there has been access to all BBCS records for the year.

Very few people submitted moth records, however, and therefore those records received from Joe Duddington, Rick Pilcher, Tony Smith, John Jaines, Dick Lorand and Mrs Brant are extremely valuable additions to my own records for the year. Clearly, with so few contributions to the moths one cannot know with confidence what trends or changes in status were developing last year.

Everyone agreed, however, that it was one of the worst years for moths in memory - not the absolute worst, but numbers of species and individuals were radically down, due no doubt to prolonged cold, wet and windy weather, and a poor summer.

The start of the year was very cold - supposedly not too bad a situation for lepidoptera as it aids diapause and cuts down on overwintering deaths due to fungal diseases. It will be interesting to see what effect the very mild start to 1988 will have on numbers surviving the winter months.

January 1987 had 27 nights of frost, and 13 days when the temperature didn't rise above freezing. February had frost on 20 nights, and 3 days not above freezing. March even had frost on 20 nights and it was generally a cold month.

April was unusually warm and sunny, with temperatures up to 68°F - but May was colder again, and June also cold and wet (down to 35°F according to Joe's records), with only 5 warm nights. April's warmth brought about a flurry of lepidoptera activity, but the following prolonged cold put a stop to it and did considerable harm to many species.

July was unsettled, wet, and nights were cold - many night temperatures in the 40's, and numbers turning up at MV light were much lower than one could expect at this time of year.

August started wet, with temperatures at night down to 40°F early in the month, but day temperatures improved to the upper 70° as the month progressed. September was much better - mainly dry and sunny, but nights were again cold and numbers of moths flying seemed very restricted.

October brought the exceptional depression and hurricane winds to the South of England. There was frost on several nights, and to end the year November was cold (10 nights of frost - highest day temperature around 50°F). December was dry, and cold initially (13 nights of frost) before it turned considerably milder and remained so over the remainder of the winter.

All in all there seemed to be many periods in 1987 when insect activity was at a low ebb due to adverse weather conditions.

Butterflies

The Orange-tips did well - they were well distributed in good numbers. Large

and Small Whites were common over our region - and the former had numbers reinforced by migrating stock from the continent. The Green-veined White was relatively common in mid and west Lincolnshire, but had a poorer time in South Humberside. The same could be said for the Brimstone. Good numbers were around in some areas, but very few were seen in the East of the County, or up towards the Humber.

Numbers of the wall butterfly were intially low, but a recovery occured by the time the second brood came along. Numbers of the Speckled Wood also built up as the season progressed.

Graylings were plentiful in restricted areas, and Ringlets were around in exceptional numbers - even seen flying in the rain. Other members of the "Browns" had a normal year, except that the Gatekeeper was rather more scarce than usual in some areas.

Mostly, the Skippers were around in the numbers you would expect, but the Large Skipper seemed to have a bad year, and there were certainly fewer sightings of the Essex Skipper.

White Admirals thrived. Red Admirals had a poor start to the year, but were around in substantial numbers later in the season. It was definitely not a Painted Lady year. They did arrive and were recorded in the South of the County area, but were not seen anywhere in numbers, and they were very scarce in the North. Peacocks were still fewer in numbers than would have been expected a few years ago, but in some areas populations have now staged a really good recovery. Small Tortoiseshells, too, have staged something of a recovery, but their range appears patchy in coverage. The Comma had a good year and this species was common in some areas.

Of the Hairstreaks it was good to have a Brown Hairstreak record - and the White-letter Hairstreak held on in restricted localities. (One new area came to light this year). The Purple Hairstreak seemed to have a poor year. A few years ago it extended its range throughout the County where Oaks occur, but in 1987 few were seen. Green Hairstreaks were recorded along the coast in the South-West, and were found in 2 new colonies. They were also seen inland again near Grantham.

Common Blues were widespread - but numbers were down and there were fewer sightings of the Holly Blue over the year.

Finally, the Small Copper had a poor start to the year, but as with some of the previously mentioned species numbers built up in late Summer and the Autumn.

Having received many comments about the paucity of insects in 1987, it was good to receive the following record from Mrs Brant, Acre House, for 31 August.

> "Masses of Peacocks (40), Brimstones (8), Red Admirals (28), Walls (12), Large Whites, Small Whites, 2 Tortoiseshells, Glorious colourful day on Buddleia - I sat watching instead of working".

Moths

Hawkmoths seemed to have a very poor year in South Humberside. Most records were for singletons, or odd larvae, and only the Small Elephant Hawk was seen in numbers. Much larger numbers were seen by John Jaines and Dick Lorand to their lights which was encouraging to hear about.

A good number of Convolvulous Hawks came in on a September migration - as indicated below.

The following moth records are selected from the few lists submitted this year, because I found them interesting, or because they add to the information in the LNU publication "The Butterflies and Larger Moths of Lincolnshire and South Humberside" (1983). Each record, for ease of cross reference, is preceded by its book reference number, and for the one new County record, the preceding number is that under which it needs to be entered in the systematic list/index etc.

79	Lime Hawk	Pinchbeck, June	KH
		Little Cawthorpe, 29 June	JJ
80	Poplar Hawk	Little Cawthorpe, in good numbers May - September	JJ
		Only one larva seen all year	JHD
		Tetney Blow Wells & Northcotes June to early August	RL
81	Eyed Hawk	Little Cawthorpe, many through to July	JJ
83	Convolvulous Hawk	Usselby, September and Lincoln 15 September	JHD
		South Thoresby 14, 16, 22, 28 Sept	REMP
		Little Cawthorpe 21 September	JJ
		South Thoresby 17 September	RL
96	Elephant Hawk	Little Cawthorpe, May to July	JJ
		Messingham BIS 21 June	RJ
		Urgent phone call took me to garden of Messingham lady growing plants for sale - and very proud of garden. Question: "What is destroying my fuchsias?" Answer: "Two Elephant Hawk larvae". September	RJ
97	Humming-bird Hawk	South Thoresby, in garden for a week in early September.	REMP
		Northcotes 15 July	RL
106	Marbled Brown	Little Cawthorpe, 29, 31 May	JJ
		Local and infrequently recorded.	
142	White Satin	Tetney Blow Wells, 17 July	RL
		Not seen for a few years.	
144	Black Arches	Little Cawthorpe, 19 August	JJ
		Very few records this century.	
176	Four-dotted Footman	Crowle Waste, 4 July	RJ
		Previously recorded here 1972 & 1978.	

179	Dingy Footman	Little Cawthorpe, 7 July Few records.	JJ
181	Scarce Footman	Little Cawthorpe, 17, 18, 23 July Remains rare in Lincolnshire.	JJ
238	Six-belted Clearwing	COUNTY RECORD A specimen of this moth was seen emerging from the base of Lotus species (the larval foodplant) by John Bratton (of the NCC), near South Ferriby on 1 August. The pupal case was found and seen by JHD for confirmation. The caterpillar feeds on the roots of Bird's-foot Trefoil, and is full grown in June, with the moth emerging in July and August. Its haunt is on banks by the sea, and it is supposed to be partial to chalk pits and broken undercliffs.	
290	Portland Moth	Bottesford, 17 August Infrequently recorded in sandy areas.	JHD
294	Dotted Rustic	South Thoresby. Only recorded in Lincolnshire a short time ago - more numerous this year.	REMP
295	Stout Dart	South Thoresby "Prone to population explosions. Had a bad year in 1986, was more numerous in 1987, but did not approach the vast numbers of 10 or more years ago".	REMP
320	Green Arches	Little Cawthorpe, odd ones June/July. Primrose Hill, Twigmoor 30 June - last recorded at this same spot - 29 June 1974.	JJ RJ
331	Large Yellow Underwing	Particularly numerous this year in several localities. Recorded between 23 June and 23 September - peaked during August - 1,971 counted.	RL
455	Slender Brindle	South Thoresby, made a good recovery this year.	REMP
457	Double-lobed	Little Cawthorpe, 16 August. Few records.	JJ
480	Marsh Moth	Males seen in the dunes this year, no females apparent.	REMP
485	Saltern Ear	Donna Nook, 10 August.	RL
489	Butterbur	South Thoresby, 7 September. Local and not widely recorded.	REMP
490	Frosted Orange	Northcotes, 3, 12 September.	RL

497	Angle-striped Sallow	Made good recovery this year.	REMP
500	The Olive	Little Cawthorpe, 16, 21 August. Local and scarce.	JJ
538	Tawny Pinion	South Thoresby, 23 April. Not commonly recorded.	REMP
550	Common Sprawler	Little Cawthorpe. 30, 31 October.	JJ
555	Black Rustic	Burton Pits, 11 September) Owlet Plantation, 18 September)	JHD
563	Feathered Ranunculus	Donna Nook, 12 September. Tetney Blow Wells, 16, 21 September Northcotes, 23 September, 1 October.	RL
576	Yellow-line Quaker	Little Cawthorpe, 2, 22, 30, and 31 October. Seen in numbers.	JJ
610	Red Underwing	Tetney Blow Wells, 11 September.	RL
626	Gold Spangle	Goxhill, 24 July.	JHD
		South Thoresby, 7 August.	REMP
644	Blackneck	Crowle Waste, 4 July.	RJ
658	Pinion-streaked Snout	Tetney Blow Wells, 16, 18 and 21 September. 5 October.	RL
668	Light Orange Underwing	Callans Lane, 10 April, quite common.	AES
		Wickenby, 24 April.	JHD
682	Bird Mocha	Tetney Blow Wells, 10 July Not recorded for several years.	RL
750	Barred Rivulet	Little Cawthorpe, 31 July. Rarely recorded.	JJ
788	Dark Umber	Scotton, larvae found - 23 May.	JHD

*** Please note the following correction:**

In Transactions of the Lincolnshire Naturalists' Union, Vol XXI, No 4, 1987, page 183, item 788 - the Dark Umber larva was found on Buckthorn when it was first recorded in South Humberside - not on Blackthorn. Apologies for this copying error.

851	Pinion-spotted Pug	larvae common in Bardney area - under-recorded in past.	REMP

874	Ash Pug	Northcotes, 19 August.	RL
878	Oak-tree Pug	Larvae common as in 851 above.	REMP
911	August Thorn	Little Cawthorpe, 1 September.	JJ
934	Oak Beauty	Little Cawthorpe, 15, 18 and 21 April.	JJ
952	Horse-chestnut Longwing	Only previously known from one larva swept from heather at Scotton by George Hyde (June '77). The moth was reared this year from larva beaten from heather near Greetwell.	JHD
961	V moth	Northcotes, 11 August - not recently recorded.	RL

Sincere thanks are extended to the following for records submitted:

Mr & Mrs A Binding, Miss B Blakeborough, Mrs C Brant, Mr P Cawdell, Mr J H Duddington, Mr J East, Miss C Godfrey, Mr R Goy, Mrs K Heath, Mr J Houghton, Mr J Jaines, Mrs W Johnson, Mr V Knight, Mr R Lorand, Mrs J Ostler, Mrs N Parish, Mrs V Pennell, Mr R E M Pilcher, Mr G Posnett, Mr E J Redshaw, Mr & Mrs J Roe, Mr A E Smith, Mrs V Wilkin.

March 1988

ARACHNOLOGY - 1988

Roy Kent

On the 15 May 1988, Dr Mike Roberts, his wife Debbie, Stan Dobson and I met at Messingham Quarry SE 9103 to survey the spider population and range of species. The Quarry is a series of sandpits designated a Nature Reserve and managed by the Lincolnshire and South Humberside Trust for Nature Conservation. Permission for the visit had been readily granted by the Warden - Vi Wilkin - and glorious sunny weather greeted us.

Dr Roberts' first impression of the Reserve was most enthusiastic because of the wide variety of habitats. The tall heads of the reeds Phragmites australis were almost all occupied by female Larinioides cornutus in their silken chambers. The piles of cut reeds also provided a varied spider population - 27 species in all.

After establishing a base in the centre of the Reserve, the four of us went our separate ways. Mike headed for the reed piles; Debbie tackled the grasses and bases of trees; Stan investigated the mosses and part of the plantation and I spent most of the time on the path which runs north/south between 2 ponds which I nicknamed 'Spider Alley' because of the high population of spiders resident on the gorse bushes.

A few days previous to our visit I had set up 3 pitfall traps on the Reserve.

Over 20 species were collected in this way, but only one Monocephalus fuscipes was unique to the pitfall trap.

It was interesting to find numerous spiders walking on the water of some smaller ponds. They were all members of the species Pirata piraticus.

Although no 'rare' spiders - as specified by the BAS Spider Recording Scheme - were collected, a total of 75 species are now listed for the Reserve. As Dr Roberts commented at the end of the day, it is clear that many more species will be present and a further survey in autumn should be very productive.

Species List - Messingham Sand Quarry (SE 9103) 15 May 1988

Amaurobius fenestralis
Dictyna arundinacea
Drassodes cupreus
Clubiona diversa
C phragmitis
C reclusa
C stagnatilis
C terrestris
Agroeca proxima
Zora spinimana
Xysticus cristatus
Oxyptila trux
Philodromus aureolus
P cespitum
P dispar
Thanatus striatus
Tibellus oblongus
Euophrys frontalis
Pardosa amentata
P nigriceps
P prativa
P pullata
Alopecosa pulverulenta
Pirata piraticus
Pisaura mirabilis
H montana
Ero cambridgei
Steatoda bipunctata
Theridion bimaculatum
T pallens
T pictum
T sisyphium
Enoplognatha ovata
Robertus lividus
Tetragnatha extensa
T montana
T obtusa
Pachygnatha clerckii
P degeeri
Meta mengei
M segmentata
Lariniodes cornutus
Araneus cucurbitinus
Walckenaeria acuminata
W nudipalpis
W unicornis
Dicymbium nigrum
Gongylidium rufipes
Dismodicum bifrons
Hypomma bituberculatum
Peponocranium ludicrum
Pocadicnemis juncea
P pumila
Oedothorax gibbosus
O tuberosus
Cnephalocotes obscurus
Erigone atra
Porrhomma pygmaeum
Agyneta decora
Microneta viaria
Bathyphantes parvulus
Kaestneria pullata
Dislostyla concolor
Poeciloneta globosa
Lepthyphantes cristatus
L ericaeus
L mengei
L tenuis
Linyphia clathrata
L hortensis
L montana
L peltata
Microlinyphia impigra
M pusilla
* Monocephalus fuscipes (pitfall trap)

CONCHOLOGY - (NON-MARINE)

E J Redshaw FLS

Due to the small number of new records for 10 km squares during the past 4 years there has been little point in publishing an annual account. However, to bring the records up to date all new records for the period 1984 to 1987 inclusive are listed below.

SK 96	Bithynia leachii	Swanholme Lakes	1986	CE
SK 97	Arion subfuscus	Riseholme Park	1985	EJR
TF 11	Ena obscura	Baston Fen NR	1987	EJR
	Pisidium personatum	Thurlby Fen NR	1987	EJR

TF 06	Arion intermedius	Nocton Wood	1984	EJR
	Nesovitrea hammonis	Nocton Wood	1984	EJR
	Aegopinella pura	Nocton Wood	1984	EJR
SE 91	Euconulus fulvus	Bagmoor	1984	JB
	Oxychilus cellarius	Thealby	1984	JB
SE 92	Aplexa hypnorum	Old R Ancholme South Ferriby	1984	JB
	Armiger crista	Old R Ancholme South Ferriby	1984	JB
	Anisus vortex	Old R Ancholme South Ferriby	1984	JB
TA 02	Acroloxus lacustris	Barton Pits	1984	JB
	Armiger crista	Barton Pits	1984	JB
	Hippeutis complanata	Barton Pits	1984	JB
	Pupilla muscorum	Barton, saltmarsh	1984	JB

I am grateful to Dr C Extence (via Mrs J Ostler) and to J Bratton for providing records and to Dr M P Kerney for checking the Pisidium identity.

GEOLOGY

D N Robinson

Fulbeck

A trial trench on the proposed 'NIREX' site on the old Fulbeck airfield exposed a well sealed layer of Pleistocene deposits with 135 vertebrae including hippopotamus, bison and Steppe rhinoceros. The provisional date of the deposits is 130-170,000 years BP.

Gas pipe trench

A second gas main from the Viking Terminal at Theddlethorpe to the grid junction at Hatton, installed this year, crosses the eastern Jurassic and Cretaceous succession in the county. It is to the north of the previous line, crossing the eastern edge of the Wolds between Little Cawthorpe and Muckton. At GR 352827 the trench revealed the Pink Band in the Chalk at about 160 ft OD; the same bed is seen in the Tetford Hill Quarry, 4½ miles to the south-west, at about 400 ft OD.

The trench also crossed a meltwater spillway just north-east of Haugham at GR 332817 which revealed the very steep-sided nature of this narrow, now dry valley in the Chalk.

Collyweston Slate

Although just outside the county boundary, it is interesting to note a recent increase in the amount of Collyweston Slate, such a noticeable feature of old stone buildings in south-west Lincolnshire, mined near the village from

which it takes its name. Normally mined in 'fox-holes' and left on the surface to split naturally during the winter, there have been successful experiments to split by refrigeration. A history of the stone slate industry can be found in 'The Book of Collyweston' by J Martin Goodwin (1987).

The Wash

The proceedings of the Conference held at Horncastle in April 1987, and referred to in the last report, have been published - 'The Wash and its Environment' edited by P Doody and B Barnett - Research and Survey in Nature Conservation No 7, Nature Conservancy Council (Peterborough, 1987). It includes the following papers:

Robinson D N - 'The Wash: Geographical and Historical Perspectives', 23-33.

Dugdale R, Plater A & Albanakis A - 'The fluvial and marine contribution to the sediment budget of the Wash', 37-47.

Evans G & Collins M - 'Sediment supply and deposition in the Wash', 48-63.

Recent publications relating to Lincolnshire Geology and Geomorphology

Neale J W Introduction to the Geology of the Hull area, **Geology Teaching** 13, 1, 1988, 40-60 (includes Middlegate Quarry, South Ferriby).

Robinson D N Geology and Scenery traverse of North Lincolnshire (South Humberside) - Excursion Report **Mercian Geologist** 11, 3, 1988.

Rothwell N R & Quinn P The Welton Oilfield **in** Petroleum Geology of North-West Europe ed. J Brooks & K Glennie (1987) 181-189.

Varah G H **Lincoln Cathedral Stone** (Barton on Humber, 1987).

Shennan I, Donoghue D N M, Lane T & Waller M Relative sea-level changes, archaeology and palaegeography of the Fenlands - Excursion guide for a meeting of IGCP-200 (UK Working Group) and INQUA North-west Europe Shoreline Sub-commission at Freiston Hall Field Centre, September 1987.

AN ANNOTATED LIST OF THE HETEROPTERA OF LINCOLNSHIRE AND SOUTH HUMBERSIDE

Peter Kirby

The Heteroptera, or True Bugs, are a group of insects comprised of some 556 British species. They are found in a very wide range of habitats, from open water to moss on the ground to the tree-tops; they include both predators and herbivores; most are relatively easy to identify; many are reasonably large and visually attractive; most can be fairly easily found. Yet, inexplicably, they have received rather little attention in the County over the years.

The first list of the Heteroptera of Lincolnshire was given by Mason (1888) in the Naturalist. He was then able to list only 122 species, increasing

this to 166 in later publications. Roebuck (1935) gave a further review, in the form of an annotated list of both Heteroptera and the larger Homoptera. by this time the total number of species of Heteroptera in the County was increased to 197. County distribution tables for the group have been prepared by several authors, the most recent by Massee (1955). This work lists 189 species for Lincolnshire, but omits some recorded by Roebuck, and it is clear that Massee had not seen Roebuck's paper. Since over 30 years of recording have now gone by without further review, and since some of the species previously recorded require comment, it seems an opportune moment to look again at the Heteroptera of the County.

It must be admitted that a brief perusal of recent literature on the Heteroptera would not suggest that such a review is urgently needed. There have been very few recorders of the group in the County in recent decades, and what records have been made have in general not been published, even when they are new to the County. Since I am probably as guilty as any other in this respect, I have taken this opportunity to add what personal records I have which seem interesting enought to warrant full quotation. The basis of the list is provided by the lists of Roebuck and of Massee. Reference is made to these works for all species mentioned by them. For many species, Roebuck gave the recording areas (Woodruffe - Peacock 1895) from which they were known, and sometimes additional information. The recording areas are given, and other of his annotations on status where relevant. Reference to other publications on the Lincolnshire Heteroptera are made only where they add additional species to the County list, where they add further records of particularly rare species, or where information in them is necessary to elucidate the status of a species in the County.

To the data gained from published sources I have added information from my own recording, and from other records of which I am aware. I have not made exhaustive search of all possible sources of information, and I have no doubt that further species and records could be added to the list were such a search to be made. If anyone has any such records, or knows of any sources which might be productive, I would be very glad to hear of them with a view to production of an update to the present list.

I have given localities and dates of capture for recent records of the rarer species, which I have arbitrarily defined as species for which I am aware of only 5 or fewer records in the County. Exceptions have been made by including full records for species which were once quite widely recorded but appear to have declined, and omitting them for species which are infrequently recorded simply through being very hard to find. Where a species listed here appears not to have previously appeared in a published list for the County, I have given the first record of which I have details in my possession, even for relatively common species. Such "sample records" are indicated by an **asterisk** (*). Recent records are my own unless otherwise stated. I have added additional notes on status in the County and, rather irregularly, on biology. In an attempt to minimize possible confusion, I have specified where national status is referred to; any unqualified status comment refers to Lincolnshire only. Species for which I know of no post-1970 record are indicated (**).

The final list given here contains 276 accredited species; a further 3 which have been recorded from the County in the past but which appear questionable; and one whose identity cannot now be determined with certainty because of taxonomic changes. There are certainly a number of additional species to be recorded from the County, and there is considerable useful work for anyone who can find enthusiasm for the group. For those who feel they might possess

incipient enthusiasm, the standard text for the identification of the group remains Southwood and Leston (1959). This book is unfortunately now out of print (though fairly readily obtainable from libraries) and is also a little out of date in places. The aquatic and semi-aquatic species are also dealt with in a Freshwater Biological Association key (Macan 1965). There is a Heteroptera Study Group, co-ordinated by the Biological Records Centre, Monks Wood Experimental Station, Abbots Ripton, Huntingdon, Cambs, PE17 2LS, from which a "starter pack" of information can be obtained which includes a list of publications needed to up-date Southwood and Leston. You will also receive details of the National Recording Scheme for Heteroptera, the existence of which is yet another good reason for putting the Heteroptera of Lincolnshire more firmly on the map.

The following annotated list of species is given in taxonomic order, and uses the nomenclature of the BRC recording card.

Aradidae (Barkbugs)

Aradus depressus (Fab), Roebuck; area 11, Massee, East Morkery Wood, SK 9518, 29, vi, 1985; Newell Wood, TF 005 145, 1987, R S Key; Haxey Grange Fen, SE 736 973, 1987, R J D Key.

A flattened insect feeding on fungal hyphae beneath bark; an easily overlooked species, which may be quite widespread in Lincolnshire woodlands.

Aneuridae (Barkbugs)

Aneurus laevis (Fab), Callan's Lane Wood, TF 0626, 5, i, 1975; Barrow Blow Wells, TA 071 218, 1981, R J D Key.

Another flattened insect found beneath bark, probably fairly frequent in the County's woods, but overlooked.

Acanthosomatidae (Shieldbugs)

Acanthosoma haemorrhoidale (L), Roebuck; areas 8, 11, Massee.

Fairly common on fruiting hawthorns, including those in suburbs and gardens.

Elasmostethus interstinctus (L), Roebuck; common, Massee.

The birch shieldbug. Frequent on birch throughout the County.

Elasmucha grisea (L), Roebuck; common, Massee.

The parent bug. Frequent on birch throughout the County.

Cydnidae (Shieldbugs, Burrower bugs)

Legnotus limbosus (Geoff). Katesbridge, TF 1014, 1976.

A largely southern species, and rather local this far north, but probably more frequent than this single record suggests. It is a ground-dwelling and rather obscure insect, usually associated with bedstraws.

**Legnotus picipes (Fallen), Roebuck; area 9 (G V Wollaston 1865). Massee.

A ground-dwelling shieldbug associated with bedstraws in sandy places. The

single very old record from the County is from Mablethorpe, and is also the most northerly British record. It may still be present on coastal dunes in the County.

Sehirus bicolor (L), Roebuck; area 15.

The pied shieldbug. Feeds on labiates, particularly white dead-nettle; probably now more or less common throughout the County.

Sehirus luctuosus M & R, Risby Warren, SE 925 135, 2, viii, 1987.

A largely ground-dwelling bug usually associated with forget-me-nots. It is a southern species, and this is the most northerly British record.

Pentatomidae (Shieldbugs)

Podops inuncta (Fab), Roebuck; area 15, Spalding, TF 2221, 1, vi, 1971; Rauceby Warren, TF 0243, 14, viii, 1982.

The European turtlebug. A ground-dwelling species. It is common in the south of England, and though somewhat local so far north as Lincolnshire is probably much more frequent than the records suggest.

Eysarcoris fabricii (Kirkaldy), Massee.

A bright and conspicuous shieldbug associated with hedge woundwort and other labiates. Formerly rare, it has spread considerably in the present century and is now locally common in the south of the County.

**Palomena prasina, Roebuck; area 7 (A, Roebuck 1928). Massee,

The green shieldbug. A large bug, very local except in the extreme south of England. In Lincolnshire, it is most likely to be found on hazel in sunny woodland rides.

Piezodorus lituratus (Fab). Roebuck; area 10.

The gorse shieldbug. Frequent on gorse throughout the County.

Pentatoma rufipes (L). Roebuck; generally distributed. Massee.

Widely distributed and fairly common on broadleaved trees, chiefly in woodland.

Picromerus bidens (L). Roebuck; area 5. Kirkby Moor, TF 2262, 26, viii, 1985.

A large predatory shieldbug of rank vegetation and low scrub. Apparently rather local in the County, probably best sought at the margins of marshes and heaths and in woodland clearings and rides.

**Troilus luridus (Fab). Roebuck; area 6.

A tree-dwelling shieldbug. It may be genuinely uncommon in the County, but often lives high in trees, so may be well-established but under-recorded in Lincolnshire woodlands.

Rhacognathus punctatus (L). Scotton Common, SK 8698, 1, vii, 1988, J H Bratton.

A shieldbug of heathland, particularly the wetter areas, where it is predacious, chiefly on larvae of the heather beetle Lochmaea suturalis. It is widely distributed in Britain, but often occurs at low densities and can be difficult to find.

**Zicrona caerulea (L). Roebuck; area 1. Massee.

The blue bug. A bright metallic blue bug, predatory on leaf beetle larvae. Always of very irregular occurrence, the absence of recent records could probably be corrected by search on heaths and calcareous grassland.

Coreidae (Squashbugs)

**Syromastus rhombeus (L). Roebuck; area 9 (C E Playll 1901).

It is surprising that this southern species should have been taken so far north. It will be equally surprising if it turns up again.

Coriomeris denticulatus (Scopoli). Roebuck; area 6. Massee. Katesbridge, TF 1014, 1976.

Common in the south of England, but close to the edge of its range in Lincolnshire, and decidedly local. Ground-dwelling, assocated with low-growing Leguminosae in dry places, and certainly with more records to be made in the County.

Rhopalidae

Myrmus miriformis (Fallen). Roebuck; area 3. Massee.

Fairly frequent in dry grassland, particularly on heaths and coastal dunes.

Chorosoma schillingi (Schummel). Rauceby Warren, TF 0243, 14, viii, 1982.

A largely coastal insect of dry grassland. Chiefly southern, this is the most northerly record on the eastern side of England. There are a number of other inland sites, and the bug may be spreading. It is interesting that it has not yet been recorded on the Lincolnshire coast, despite the presence of suitable habitat.

Lygaeidae (Groundbugs)

Heterogaster urticae (Fab). Roebuck; area 11.

The nettle groundbug. Locally common in nettlebeds in the south of the County, perhaps rather rare in the north.

Chilacis typhae (Perris). Crowle Brick Pits, SE 7711, 1981, R J D Key; Bagmoor, SE 906 155, 6, viii, 1984, R J D Key.

This is a fairly common species throughout southern England, found in reedmace heads. The dearth of records for the County is probably misleading.

Ischnodemus sabuleti (Fallen). *Spalding, TF 2221, 1970.

Common on reed sweet-grass, and less often other grasses, throughout the County. This species has spread considerably in recent decades, which no doubt accounts for the lack of old records.

Nysius ericae (Schilling). *Rauceby Warren, TF 0243, 14, viii, 1982.

Probably rather common in dry places with sparse vegetation throughout the County, but without recent records because only recently recognised as distinct from the following species.

Nysius thymi (Wolff). Saltfleetby-Theddlethorpe NNR, TF 4691, 14, viii, 1983. Listed by Roebuck and by Massee, but because of taxonomic change such old records must be discounted.

Found in dry places with sparse vegetation, seemingly much more local than the preceding species.

Ortholomus punctipennis Stal. Risby Warren, SE 925 135, 2, viii, 1987, S J J Lambert.

One of the County's greater rarities. First discovered in Britain in 1937, and so far recorded from only 6 localities nationally. Found on very dry, sparsely vegetated sand.

Kleidocerys resedae (Panzer). Roebuck; area 6. Massee.

Common on birch throughout the County.

Kleidocerys truncatulus (Walker). Roebuck; area 2. Massee.

Common on heaths, and only as local as its habitat.

Peritrechus geniculatus (Hahn). Kirkby Moor, TF 2262, 26,viii, 1985.

A common bug in southern England, very local so far north as Lincolnshire. There are likely to be more localities on dry open grassland.

Peritrechus lundi (Gmelin). Roebuck; common. Massee. Kirkby Moor, TF 2262, 26, viii, 1985; Risby Warren, SE 925135, 2, viii, 1987.

Roebuck's assessment of this bug as "common" certainly could not be applied now. It was formerly a frequent species at the edges of arable fields and on fallow land, but the intensification of agriculture has put paid to this habitat, and it is now restricted to partly bare and thinly vegetated open ground in more natural sites.

Megalonotus chiragra (Fab). Roebuck; area 11. Massee. North Somercotes, TF 4495, 23, vi, 1981; Saltfleetby-Theddlethorpe NNR, TF 4691, 28, vi, 1981.

Another southern species of dry and often sparsely vegetated ground. Decidedly local so far north, and possibly largely or entirely confined to the coast.

Trapezonotus arenarius (L). *North Somercotes, TF 4495, 23, vi, 1981.

Listed by Roebuck and by Massee, but because of taxonomic changes such old records must be discounted, since they may also refer to the following species. A characteristic species of coastal dunes.

Trapezonotus desertus Seidenstucker. *East Morkery Wood, SK 9519, 29, vi, 1985.

A species of heathlands and other dry inland localities. Probably locally

common throughout the County, but not recorded in the past because of confusion with the preceding species.

Trapezonotus dispar Stal. Linwood Warren, TF 132 875, 28, v, 1985. J H Bratton.

Typically a species of dry woodland rides in the south of England. For some time it was not recognized as distinct from the other Trapezonotus species. Taxonomic confusion may partly explain why there is only a single record for the County so far, but the species seems certainly to be very local in the County.

Macrodema micropterum (Curtis). Roebuck; area 2. Massee, Manton Warren, TF 940 043, 19, vi, 1988.

A heathland species, found on the ground beneath Calluna or Erica in dry places.

**Acompus rufipes (Wolff). Roebuck; area 4.

A wetland bug assocated with valerian or marsh valerian. Always local, and apparently rather declined nationally. There is no reason why it should not still occur.

Stygnocoris fuligineus (Geoffroy). Roebuck; common. Massee.

Generally common on the ground in dryish open places.

**Stygnocoris rusticus (Fall). Roebuck; areas 4, 6, 9, 10. Massee.

A bug of fairly open places, formerly nationally common but declined and now rather local.

Stygnocoris sabulosus (Schilling). Roebuck; common. Massee.

Common in dry open places throughout the County.

Plinthisus brevipennis (Latreille). North Somercotes, TF 4495, 23, vi, 1981.

A shining black bug, usually of sandy places, here towards the northern edge of its range.

Drymus brunneus (Sahlberg). *Haxey Turbary, SE 7401, 7, ii, 1981, R J D Key.

A generally common species of woodland leaf litter.

**Drymus ryei (D & S). Massee, Mason (1888).

A somewhat local species of dry open places, probably under-recorded in the County.

Drymus sylvaticus (Fab). Roebuck; common. Massee.

Generally common in leaf litter and low vegetation in a wide range of habitats.

Scolopostethus affinis (Schilling). Roebuck; abundant. Massee.

Common in dry places, and sometimes in nettlebeds, throughout the County.

Scolopostethus decoratus (Hahn). Roebuck; common under heather. Massee.

Virtually restricted to fairly dry heathland, but usually present and frequent in even small remnants of suitable habitat.

Scolopostethus grandis Horvath. East Morkery Wood, SK 9518, 29, vi, 1985.

Typically in leaf litter in woodland or other shady places. It seems to be near the northern edge of its British range in Lincolnshire, but may be overlooked because of resemblance to other members of the genus.

Scolopostethus thomsoni Reuter. Roebuck; areas,6, 7, 8. Massee.

Common in nettlebeds throughout the County.

**Gastrodes abietum Bergroth, Roebuck (A Thornley 1897).

The spruce-cone bug. Most of the life history is spent in spruce cones high on trees, and the species is therefore not an easy one to record. There is no reason why it should not occur almost wherever Norway spruce is planted in the County. Anyone with an opportunity to examine a recently-felled spruce should bear the species in mind.

Gastrodes grossipes (Degeer). Roebuck; areas 2,11. Massee.

The pine-cone bug. Common on Scots pine throughout the County.

Berytinidae (Stiltbugs)

Cymus glandicolor Hahm. *Spalding, TF 2323, 16, vi, 1973.

Frequent on sedges, usually in wet places, throughout the County.

Cymus melanocephalus Fieber. *Kirkby Moor, TF 2262, 26, viii, 1985.

On rushes in wet places, rather more local than the preceding species.

Berytinus clavipes (Fab). Ancaster Valley, SK 9842, 14, ix, 1986; The Drift, SK 8727, 1983, D A Lott.

A local species associated with restharrow. Ground-dwelling, easily overlooked, and probably to be found in further sites.

Berytinus minor (H - S). Roebuck; area 6. Katesbridge, TF 1014, 17, iv, 1976.

A ground-dwelling species, easily overlooked and probably fairly generally distributed in the County.

Berytinus montivagus (Meyer). Rauceby Warren, TF 0243, 14, viii, 1982.

Common in the south of England but rather local in Lincolnshire. Associated with black medick in dry open places, probably throughout the County.

**Berytinus signoreti (Fieber). Roebuck; area 11. Massee.

Ground-dwelling in dry open places, usually associated with bird's-foot trefoil. Probably of occasional occurrence throughout the County.

**Gampsocoris punctipes (Germar). Massee. Nr Spilsby (Graham 1941).

On restharrow; probably more frequent than the lack of recent records suggests.

Piesmatidae

Piesma maculatum (Laporte). Roebuck; areas 2, 6, 11, 13. Massee.

On Chenopodiaceae in saltmarshes or inland.

Piesma quadratum (Fieber). *North Somercotes, TF 4496, 23, vi, 1981.

On coastal Chenopodiaceae. Common in saltmarshes.

Tingidae (Lacebugs)

Campylosteira verna Fieber, Gibraltar Point, TF 55/658, 10, xi, 1976, 19, ix, 1982.

A small and obscure moss-dwelling species, probably overlooked elsewhere.

Acalypta carinata (Panzer). East Morkery Wood, SK 9519, 29, vi, 1985.

A moss-feeder of fairly damp shady places, often on chalk or limestone. Certainly local, but no doubt to be found elsewhere in the County.

Acalypta parvula (Fallen). Roebuck; common. Massee.

Common in moss, usually in fairly dry open places.

Dictyonota strichnocera Fieber. Roebuck; areas 10, 15, 16.

The gorse lacebug. Common on gorse throughout the County.

Kalama tricornis (Schrank). Massee. Ferriby Quarry, SE 997 218, 12, vii, 1984, J H Bratton.

Always a local species, found in dry places with short of sparse vegetation. Usually at low density and easily overlooked.

Derephysia foliacea (Fallen). Massee. Rauceby Warren, TF 0243, 14, viii, 1982; Kirkby Moor, TF 2262, 26, viii, 1985; Ancaster Valley, 14, ix, 1986; Bagmoor, SE 906 160, 2, viii, 1987.

The ivy lacebug. A local species, usually in short dry grassland, and seemingly with no very strong association with ivy.

**Stephanitis rhododendri Horvath. Massee.

The rhododendron lacebug. An introduced species, which at one time was very widely distributed on Rhododendron ponticum, but is now apparently extinct in Britain.

Tingis ampliata (H - S). Roebuck; areas 8, 9, 11. Massee.

The creeping thistle lacebug. Common on creeping thistle througout the County.

Tingis cardui (L). Roebuck; common on thistle heads. Massee.

The spear thistle lacebug. Common on spear thistle throughout the County.

Physatocheila dumetorum (H - S). Roebuck; area 11. Massee. Ancaster Valley, SK 8942, 14, ix, 1986.

On the branches of hawthorn and blackthorn. Certainly rather local, but probably more frequent than the records suggest.

**Dictyla convergens (H - S). Roebuck; area 4.

A local species on water forget-me-nots. Probably still to be found at a number of sites in the County if carefully searched for.

Agramma laetum (Fallen). Kirby Moor, TF 2262, 26, viii, 1985; Ancaster Valley, SK 9842, 14, ix, 1986; Manton Warren, TF 940 043, 19, vi, 1988.

Associated with sedges, in the drier parts of marshes and on calcareous grassland and dunes. Seemingly very local, but a small and inconspicuous species, perhaps often overlooked.

Reduviidae (Assassin Bugs)

Empicoris vagabundus (L). Roebuck; areas 10, 13. Massee. Callan's Lane Wood, TF 0626, 15, ix, 1984.

A long-legged predator found chiefly on tree trunks and branches. Slow moving, inconspicuous and widely overlooked.

**Reduvius personatus (L). Roebuck; area 6, (H T Sims 1885). Massee. Kirk (1942); ".... a pair .... found in the Science Laboratory at Donington Grammar School".

The flybug. A large and conspicuous predator almost invariably found in houses, barns and other buildings. Always local in Britain, and seemingly very local in Lincolnshire.

Coranus subapterus (DeGeer). Recorded by Roebuck from area 2, and by Massee; the species has since been split into two, one predominantly coastal, the other on inland heaths. A record of C subapterus from Gibraltar Point by Hill (1984) is likely to refer to the coastal species C woodroffei, and nymphs of Coranus found at Saltfleetby-Theddlethorpe NNR are likely also referable to this species. On the other hand, Coranus from inland heaths usually belong to C subapterus, yet those I have taken from Kirkby Moor appear to be C woodroffei.

Nabidae (Damselbugs)

Nabis ferus (L). Roebuck; common. Massee.

The field damselbug. Generally common in dry open places throughout the County.

Nabis ericetorum Scholtz. Roebuck; area 11.

The heath damselbug. Frequent on heaths, and no more local than its habitat.

Nabis rugosus (L). Roebuck; areas 11, 17. Massee.

The common damselbug. Common in grassland throughout the County.

Aptus mirmicoides (Costa). Roebuck; areas 2, 10, 13. Massee.

The ant damselbug. Fairly frequent in dry open places.

Anaptus major (Costa). Roebuck; areas 5, 6, 11, 17. Massee.

The grey damselbug. Frequent in dry open places; particularly common in coastal dunes.

Himacerus apterus (Fab). Roebuck; areas 5, 6. Massee.

The tree damselbug. The only British damselbug living on bushes and trees. Somewhat local in Lincolnshire, but fairly frequent on woodland edges, clearings, etc.

Stalia boops (Schiodte). Gibraltar Point, 19, ix, 1976 (Ely 1982).

A nationally local species of dry grassy places, near the northern edge of its range in Lincolnshire.

Nabicula flavomarginata (Scholtz). Roebuck; areas 2, 10, 13. Massee.

The broad damselbug. Generally common in long grassland, marshes and saltmarshes.

Nabicula limbata (Dahlbom). Roebuck; common. Massee.

The marsh damselbug. Common in damp grassland throughout the County.

Nabicula lineata (Dahlbom). Roebuck; area 11. Massee.

The reed damselbug. Generally distributed in coastal marshes from the Wash to north of Saltfleetby-Theddlethorpe NNR, and at the margins of the Sea Bank Claypits. There are as yet no records for inland marshes in the County, but it can occur in such places.

Anthocoridae (Flowerbugs, etc)

Temnostethus pusillus (H - S). Recorded by Roebuck and Massee, but it has since been recognised that two species were formerly included under this name, T pusillus and T gracilis. Both are found chiefly on tree trunks, and it is likely that both occur in the County. More records are needed!

Anthocoris confusus Reuter. Roebuck; areas 3, 11. Massee.

Generally common on trees and bushes.

Anthocoris simulans Reuter. Rauceby Warren, TF 0244, 14, viii, 1982; Ancaster Valley, SK 9842, 14, ix, 1986.

On ash trees, perhaps somewhat local but probably of general distribution through the County.

Anthocoris nemoralis (Fab). Roebuck; very abundant. Massee.

Generally common on bushes and trees.

Anthocoris sarothamni D & S. Roebuck; area 11. Massee.

The broom flowerbug. Locally common on broon.

Anthocoris nemorum (L). Roebuck; very abundant. Massee.

The common flowerbug. Very common on low vegetation throughout the County.

Tetraphleps bicuspis (H - S). Roebuck; common on conifers. Massee.

Common on conifers throughout.

Acompocoris pygmaeus (Fallen). Roebuck; area 11. Massee.

Common on conifers throughout.

Orius laticollis (Reuter). Baston Fen, TF 1417, 15, viii, 1982.

Only recently recognised in Britain, probably widespread in the County.

Orius majusculus (Reuter). Roebuck; area 11. Massee.

Probably widespread and fairly frequent in the County.

Orius vicinus (Ribaut). *Gosberton, TF 2431, 14, viii, 1982.

Probably widespread and common in the County. Orius minutus recorded by Roebuck for area 11 and by Massee, in fact has no confirmed British records. The majority of old records refer to O vicinus nut confusion with O laticollis is also possible.

Orius laevigatus (Fieber). Baston Fen, TF 1417, 15, viii, 1982.

Probably widespread in the County.

Orius niger (Wolff). *Rauceby Warren, TF 0243, 14, viii, 1982.

Perhaps somewhat local in the County, though numerous where found. Most frequently found on the flowers of heather or of mint.

Lyctocoris campestris (Fab). Roebuck; area 11. Massee. Crowle Brick Pits, SE 7701, 23, x, 1981, R J D Key.

The debris bug. Found in bird's nests, thatch, hay piles, etc and probably often overlooked; likely to be widespread in the County.

Xylocoris cursitans (Fallen). Massee. Graham (1941); nr Spilsby. Katesbridge, TF 1014, 1976; Bourne Wood, TF 0720, 21, iv, 1984.

A rather local species found under bark, and possibly associated with ancient woodland. Probably widely distributed in suitable habitats in the County.

Dufouriellus ater (Dufour). Bourne Wood, TF 0721, 1984.

An obscure species of cryptic habits, found beneath bark, in crevices in

buildings, etc. It may well be widely distributed in the County, but overlooked.

Cimicidae (Bedbugs, etc)

**Cimex columbarius Jenyns. Roebuck; area 11. Massee.

Recorded in the past from dovecotes, where it sucked the blood of pigeons, this bug has declined and there are no recent British record.

**Cimex lectularius L. Roebuck; widely distributed. Massee.

The bed-bug. Hopefully less common than in the past, but always of rather irregular occurrence.

Microphysidae

Loricula elegantula (Barensprung). Roebuck; area 11. Massee.

Common on tree-trunks, probably throughout the County.

Loricula pselaphiformis Curtis. Roebuck; area 11. Massee.

Frequent on tree-trunks, but less common than the preceding species.

**Myrmedobia coleoptrata (Fallen). Roebuck; area 6 (T V Wollaston 1865). Massee.

A rather uncommon species nationally, but small and of cryptic habits, so possibly overlooked.

Miridae (Plant bugs)

Monalocoris filicis (L). Roebuck; areas 7, 8, 11, 13. Massee.

The bracken bug. Generally common on ferns, particularly bracken, throughout the County.

Bryocoris pteridis (Fallen). Roebuck; areas 5, 8, 10. Massee.

The fern bug. Frequent on ferns throughout the County.

Deraeocoris lutescens (Schilling). Kirkby Moor, TF 2262, 26, viii, 1985.

At the northern edge of its range and scarce in the County. The current absence of records from the south of the County is surprising.

Deraeocoris ruber (L). Roebuck; area 16. Massee.

Common in gardens and hedgerows in the south of the County, and probably more or less frequent throughout.

Alloeotomus gothicus (Fallen). *Rauceby Warren, TF 0243, 14, viii, 1982.

A rather recent arrival in Britain, now fairly common on Scots pine.

Lopus decolor (Fallen). Roebuck; area 10.

A dry grassland species, probably fairly frequent throughout the County.

Conostethus griseus D & S. *Holbeach St Matthew's, TF 4034, 1979.

Generally common in saltmarshes all along the Lincolnshire coast.

Hoplomachus thunbergi (M - D). East Morkery Wood, SK 9519, 29, vi, 1985; Donna Nook, TF 4495, 18, vi, 1988.

A local species associated with mouse-ear; there are likely to be more sites in the County.

Megalocoleus molliculus (Fallen). *Rauceby Warren, TF 0243, 14, viii, 1982.

Probably frequent in the County on yarrow.

Megalocoleus pilosus (Schrank). *Rauceby Warren, TF 0244, 14, viii, 1982.

Usually on tansy, less often on the Compositae; probably frequent throughout the County.

Amblytylus nasutus (Kirschbaum). Katesbridge, TF 1014, 3, vii, 1976.

A dry grassland species near the northern edge of its range in Lincolnshire, and likely to be local.

Macrotylus solitarius (M - D). Bourne Wood, TF 0720, 2, viii, 1981.

Rather local, on hedge woundwort, no doubt to be found in many other places in the County in woodland rides and hedgerows.

Orthonotus rufifrons (Fallen). Roebuck; areas 8, 11. Massee.

Local on shaded rank vegetation at woodland edges and rides.

Harpocera thoracica (Fallen). Roebuck; not uncommon. Massee.

Common on oak.

Tytthus geminus (Flor). Thurlby Fen Slipe, TF 1216, 29, viii, 1987. J H Bratton.

A rather rare wetland species, recorded from only a handful of English counties. This is by far the most northerly record.

Tytthus pygmaeus (Zetterstedt). Tongue End, TF 1720, 1981.

A nationally rather local wetland species. It is likely to prove widespread in the County.

Phylus coryli (L). Roebuck; areas 10, 11. Massee.

Frequent on hazel throughout the County.

Phylus melanocephalus (L). Roebuck; fairly common. Massee.

Common on oak throughout the County.

Phylus palliceps Fieber. Roebuck; areas 8, 10, 11. Massee.

Frequent on oak, probably throughout the County.

Psallus ambiguus (Fallen). Roebuck; specially abundant on apple trees. Massee.

Common throughout the County, most frequent on alder but also on apple, hawthorn and sallow.

Psallus betuleti (Fallen). Massee.

Frequent on birch throughout the County.

Psallus perrisi (M & R). *East Morkery Wood, SK 9518, 29, vi, 1985.

Common on oak throughout the County.

**Psallus variabilis (Fallen). Roebuck; abundant. Massee.

Certainly not a common species now. It is possible that the old records include some confusion with other species, particularly P assimilis. The latter species is generally the commoner in Britain, but oddly I have no record of having taken it in Lincolnshire.

Psallus scholtzi D & S. Roebuck; areas 10, 15, 16.

Locally frequent on alder.

Psallus falleni Reuter. Roebuck; areas 11. Massee.

Frequent on birch throughout the County.

Psallus lepidus (Fieber). Roebuck; areas 11, 15, 16. Massee.

Common on ash throughout the County.

Psallus haematodes (Gmelin). Roebuck; areas 8, 11. Massee.

Generally common on sallows.

Psallus varians (H - S). Roebuck; common. Massee.

Generally common on oak, adults often recorded from other broadleaved trees.

Compsidolon salicellus (H - S). Roebuck; E A Butler, 1923. Massee.

Somewhat local, but probably fairly frequent throughout the County, particularly on bramble in warm and sheltered places.

Atractotomus magnicornis (Fallen). Roebuck; area 10. Massee.

Common on conifers throughout.

Atractotomus mali (M - D). *Spalding, TF 2323, 30, vii, 1970.

A largely southern species at the northern limit of its range in Lincolnshire. It is locally frequent in the south of the County.

Plagiognathus albipennis (Fallen). *Spalding, TF 2322, 2, vii, 1970.

On Artemisia species throughout the County. Different forms of the bug are found on different host species. A very small form is common on sea wormwood on the Lincolnshire coast.

Plagiognathus arbustorum (Fab). Roebuck; perhaps the commonest species. Massee.

Common throughout the County on nettles.

Plagiognathus chrysanthemi (Wolff). Roebuck; widely distributed. Massee.

Common throughout the County on low vegetation in dry sunny places.

Chlamydatus pullus (Reuter). *Rauceby Warren, TF 0243, 14, viii, 1982.

Probably frequent throughout the County amongst short and sparse vegetation in dry places.

Chlamydatus saltitans (Fallen). *Rauceby Warren, TF 0243, 14, viii, 1982.

Probably frequent throughout in similar places to C pullus.

Sthenarus rotermundi (Scholtz). *Willingham Woods, TF 1388, 13, viii, 1983.

Probably general on white and grey poplars.

Phoenicocoris obscurellus (Fallen). Roebuck; area 11. Massee.

Common on Scots pine throughout the County.

**Psallodema fieberi (D & S). Roebuck; areas 10, 11. Massee.

A very local species throughout Britain on wych elm. It tends to form very small colonies, often on single trees, and is thus readily overlooked. I know of no recent records for the County, but there is no reason why it should not still be present.

Asciodema obsoletum (Fieber). Roebuck; areas 10, 11. Massee.

Common on gorse throughout the County.

**Systellonotus triguttatus (L). Roebuck; E A Butler, 1923. Massee.

A very local species nationally found running with ants on bare ground amongst short, sparse vegetation on dunes, heaths, etc. There remain a number of localities in the County which might be suitable for the bug.

Macrolophus nubilus (H - S). East Morkery Wood, SK 9518, 29, vi, 1985.

On hedge woundwort; perhaps rather local in the County.

** Dicyphus constrictus (Boheman). Roebuck; area 11. Massee.

There has been much confusion over the diagnostic characters of this species in the past, and old records must be viewed with some suspicion. It is by no means an impossible species for the County, but since its presence on

the list appears to rest on two specimens from Well recorded by Mason (1888), its occurrence in the County requires confirmation.

Dicyphus epilobii Reuter. Roebuck; common. Massee.

Common throughout the County on great willow-herb.

Dicyphus stachydis Reuter. Roebuck; common. Massee.

Common on hedge woundwort throughout the County.

Dicyphus globulifer (Fallen). Roebuck. Massee.

Common on campions throughout the County, particularly where they grow in hedgerows and on wood margins and rides.

Campyloneura virgula (H - S). Roebuck; area 11. Massee.

Generally common on shrubs in hedgerows, woods and gardens.

Pilophorus cinnamopterus (Kirschbaum). Rauceby Warren, TF 0243, 14, viii, 1982.

On Scots pine. A southern species; this may be the most northerly British record.

**Orthocephalus saltator (Hahn). Roebuck; areas 7, 9. Massee.

A species of short dry grassland: likely still to be present at a number of sites in the County.

Malacocoris chlorizans (Panzer). Roebuck; widely distributed. Massee.

The delicate apple capsid. Generally common on shrubs and trees in woods, hedgerows, gardens, etc.

Fieberocapsus flaveolus (Reuter). Saltfleetby-Theddlethorpe NNR, TF 4691, 21, ix, 1985.

Local in wetland: likely to be present elsewhere in the County.

Cyllecoris histrionicus (L). Roebuck; common. Massee.

Common on oak throughout the County.

Dryophilocoris flavoquadrimaculatus (DeGeer). Roebuck; fairly common. Massee.

Common on oak throughout the County.

**Globiceps cruciatus Reuter. Massee.

An uncommon species throughout Britain, usually associated with low Salix bushes, particularly creeping willow. It would be interesting to know whether the species is still present in the County.

Globiceps dispar (Boheman). Risby Warren, SE 925 135, 2, viii, 1987.

A local species nationally, and recorded from a wide range of habitat types.

Dunes and the margins of heath may provide further records.

**Globiceps flavomaculatus (Fab). Roebuck; area 11. Massee.

This species appears to have declined nationally, and there seem to be no recent records for the County.

Globiceps woodroffei Wagner. Scotton Common, SK 870 985, 1988: nymphs collected on 17, vi by S J J Lambert & P Kirby; adults collected 1, vii by J H Bratton.

A heathland species, found particularly amongst tall heath or heather, often where there is some scrub invasion or light shading. The bug was not recorded in Britain until 1956, but now seems widespread, though local, through much of England, and is also recorded from Scotland.

Heterotoma meriopterum (Scopoli). Roebuck; common. Massee.

Generally common on rank vegetation and low shrubs in woods, gardens, hedgerows, etc.

Blepharidopterus angulatus (Fallen). Roebuck; abundant. Massee.

The black-kneed capsid. Common on a number of broadleaved trees, particularly birch.

Pachylops bicolor (D & S). Roebuck; areas 10, 11. Massee.

Local on gorse.

Orthotylus tenellus (Fallen). Roebuck; areas 6, 11. Massee.

Local on ash, oak and hazel, particularly in woodland rides.

Orthotylus marginalis Reuter. Roebuck; common. Massee.

The dark-green apple capsid. Common on willows throughout the County, less frequent on other trees and shrubs.

Orthotylus nassatus (Fab). Roebuck; areas 2, 11. Massee.

Frequent on limes in the south of the County, and probably throughout.

Orthotylus ochrotrichus Fieber. Roebuck; area 2.

Common throughout the County on low plants and shrubs.

**Orthotylus prasinus (Fallen). Roebuck; areas 10, 11.

A rather local species nationally, usually on elm.

Orthotylus ericetorum (Fallen). Roebuck; area 10.

Common on heaths.

Orthotylus flavosparsus (Sahlberg). Roebuck; area 18.

Generally common on Chenopodiaceae on the coast and inland.

Orthotylus moncreaffi (D & S). Roebuck; area 18.

Common on sea purslane in saltmarshes along the whole length of the Lincolnshire coast.

Orthotylus diaphanus Kirschbaum). Roebuck; area 11. Massee. Kirkby Moor, TF 2262, 26, viii, 1985.

A local species found on willows, particularly white willow. I have only one recent record for the County, but it is probably much more widely distributed than this might suggest.

Orthotylus bilineatus (Fallen). Roebuck; area 8. Massee.

On poplars, particularly aspen. Rather local, but probably throughout the County where there are suitable stands of host plants.

Cyrtorhinus caricis (Fallen). Kirkby Moor, TF 2262, 26, viii, 1985.

A somewhat local wetland species, but probably to be found throughout the County.

Pseudoloxops coccineus (M - D). *Ancaster Valley, SK 9842, 14, ix, 1986.

On large fruiting ash trees. Locally frequent in the south of the County, but perhaps rather less common in the north.

Mecomma ambulans (Fallen). Massee.

Frequent throughout the County on shaded vegetation in woods, etc.

Pithanus maerkeli (H - S). Roebuck; areas 6, 8, 11. Massee.

Frequent in dry grassland throughout the County.

Lygus rugulipennis Poppius. Roebuck; common. Listed as L pratensis; the genus has since been revised, and the old name pratensis includes several species. The account of the species given by Roebuck makes it clear that L rugulipennis, the European tarnished plantbug, is the chief species included. It remains common throughout the County.

Lygus wagneri Remane. East Morkery Wood, SK 9518, 29, vi, 1985.

A common species in the north and west of Britain, but in the south and east apparently confined to woodland rides, and possibly associated with ancient woodland sites.

Liocorus tripustulatus (Fab). Roebuck; common. Massee.

Common throughout the County on nettles.

Orthops cervinus (H - S). Roebuck; area 11. Massee.

Frequent throughout the County; especially common on lime blossom.

Orthops campestris (L). Roebuck; areas 6, 8, 11. Massee.

Generally common on flowerheads of umbellifers.

Orthops kalmi (L). Roebuck; areas 8, 11. Massee.

Probably fairly frequent throughout the County on flowers of umbellifers.

An additional species of Orthops, O basalis (Costa) has since been recognised in Britain. Old records of O campestris and O kalmi may therefore be confused. There are recent confirmed records of both these species, but not as yet of basalis.

Lygocoris pabulinus (L). Roebuck; common, "attacks a variety of crop plants ... destroyed a field of sugar beet seedlings near Wragby in 1929". Massee.

The common green capsid. Still a generally common species on low vegetation, but no longer a pest.

Lygocoris contaminatus (Fallen). Roebuck; common. Massee.

Common on birch throughout the County.

Lygocoris viridis (Fallen). Roebuck; area 10.

Frequent on lime, occasionally on other broadleaved trees.

Lygocoris lucorum (M - D). *Kirkby Moor, TF 2262, 26, viii, 1985.

Frequent throughout the County, particularly on thistles and other coarse rank vegetation.

Lygocoris spinolai (M - D). *Rauceby Warren, TF 0343, 14, viii, 1982.

Frequent throughout the County, particularly on brambles.

Camptozygum aequale (Villiers). Rauceby Warren, TF 0243, 31, viii, 1981; Risby Warren, SE 925 135, 2, viii, 1987.

Probably frequent in the County on Scots pine.

Plesiocoris rugicollis (Fallen). Roebuck; "The Apple Capsid, now a serious pest in the County. Since this century began the species was largely confined to Salix species and Alnus, but in recent years it adopted an apple diet and still more recently it has become a regular pest on currant bushes". Massee.

No longer a pest in Britain: the former predilection of the species for apples and currants seems to have passed, and it is now a frequent but somewhat local bug of willows and sallows in the County.

Polymerus nigritus (Fallen). *Spalding, TF 2320, 30, vii, 1970.

On bedstraws, particularly goosegrass, and probably frequent throughout the County.

**Dichrooscytus rufipennis (Fallen). Roebuck; area 11. Massee.

A rather local species in much of Britain, on Scots pine.

Miris striatus (L). Roebuck; area 11. Massee.

Frequent on oak in woodlands, and also on hawthorn, but often high on trees and hence under-recorded.

Calocoris quadripunctatus (Villiers). Roebuck; areas 3, 8, 10, 11. Massee.

Common on oak throughout the County.

Calocoris stysi Wagner. Roebuck; areas 2, 6. Massee.

Common on nettles in rather shaded places throughout the County.

Calocoris norvegicus (Gmelin). Roebuck; very common. Massee.

The potato capsid. Generally common on low vegetation.

Calocoris roseomaculatus (DeGeer). Roebuck; areas 10, 11. Massee. Cleethorpes TA 3206, 2, viii, 1970.

A dry grassland species, probably locally common throughout the County.

**Adelphocoris lineolatus (Goeze). Roebuck; common on Ononis. Massee.

The lucerne plantbug. A common species on a number of species of Leguminosae in the south of England, but much more local in the north and, in the north-east of its range, seemingly largely confined to restharrow, as Roebuck's comment suggested. I have no recent records for the County, and it could certainly not now be described as common.

Stenotus binotatus (Fab). Roebuck; areas 4, 11. Massee.

Common in grassland throughout the County.

Phytocoris dimidiatus (Kirschbaum). *Spalding, TF 2322, 5, viii, 1973.

Frequent on broadleaved trees, probably throughout the County.

Phytocoris longipennis Flor. Roebuck; areas 2, 8, 10, 11. Massee.

Common on broadleaved trees throughout the County.

**Phytocoris pini Kirschbaum. Roebuck; areas 2, 11. Massee.

A largely northern species found on Scots pine, at the southern edge of its range in Lincolnshire. I know of no recent records.

Phytocoris populi (L). Roebuck; area 6. (A Roebuck, 1923). Massee.

Local on broadleaved trees.

**Phytocoris reuteri Saunders. Roebuck; area 11. Massee.

On trees and bushes; likely to prove very local so far north.

Phytocoris tiliae (Fab). Roebuck; areas 2, 3, 6, 11. Massee.

Generally common on broadleaved trees.

Phytocoris ulmi (L). Roebuck; common. Massee.

Common throughout the County on hawthorn.

Phytocoris varipes Boheman. Massee.

Fairly common in dry grassland throughout the County.

Capsus ater (L). Roebuck; widely distributed. Massee.

Common in grassland throughout the County.

Pantilius tunicatus (Fab). Roebuck; area 11. Massee. East Morkery Wood, SK 9518, 8, ix, 1971.

Local, but probably widely distributed throughout the County, on birch, alder and hazel.

Acetropis gimmerthali (Flor). Kirkby Moor, TF 2262, 17, vii, 1974; 15,vii, 1984, J H Bratton; Moor Farm, TF 226 635, J H Bratton.

A dry grassland species, towards the northern edge of its range in the County and very local, though probably to be found in further sites.

Stenodema calcaratum (Fallen). Roebuck; generally distributed. Massee.

Generally common in grassland and marshes.

Stenodema trispinosum Reuter. Fairfield Pit, TA 078 242, 1, viii, 87.

Associated with coastal grassland and reedbeds. A chiefly southern species in Britain, occurring north to Yorkshire, but in Lincolnshire so far recorded only from the north, despite specific search around the Wash.

Stenodema holsatum (Fab). Roebuck; area 3 (A Thornley 1897). Massee. Linwood Warren, TF 132 875, 28, vi, 1985, J H Bratton.

A largely northern and western species in Britain, clearly local in the County. Shaded woodland rides on acid soils in the north are the most likely sites.

Stenodema laevigatum (L). Roebuck; generally distributed. Massee.

Common in grassland throughout the County.

Notostira elongata (Geoffroy). Roebuck; generally distributed. Massee.

Common in grassland throughout the County.

Megaloceraea recticornis (Geoffroy). Roebuck; areas 8, 11, 17, 18. Massee.

Common in grassland throughout the County.

Trigonotylus psammaecolor Reuter. Roebuck; 1885(?). Massee. Hill (1984); Gibraltar Point (recorded by K R Payne, 1975); Cleethorpes, TF 3207, 18, vi, 1988. Mason (1888) in his entry for T ruficornis refers to specimens from Mumby Chapel sand-hills, " ... abundant on the flower spikes of Elymus arenarius and Psamma arenaria in July and August. Most are of the variety noted by Prof Reuter ..." This record in all probability also refers to T psammaecolor.

A nationally uncommon species found on sparse grasses on the seaward side of dunes.

Trigonotylus ruficornis (Geoffroy). Roebuck; generally distributed. Massee.

Frequent in dry grassland throughout the County.

Teratocoris saundersi D & S. Roebuck; area 11. Massee.

Probably widely distributed and fairly frequent in marshy places throughout; certainly fairly common at the upper limits of saltmarshes in the north of the County.

**Teratocoris viridis D & S. Roebuck; area 11. Massee.

An upland species associated with Eriophorum, and rather unexpected in the County. It would seem that both references to the species may originate in Mason (1888). He, however, records it only from the foot of the sand-hills at Mumby Chapel, an unlikely habitat for the species, and states that Edward Saunders, a leading expert on the group at the time, had written "I do not feel sure that this is not a female saundersi." It is probably safe to erase the species from the County list.

Leptopterna dolabrata (L). Roebuck; generally distributed. Massee.

The meadow plantbug. Common in grassland throughout the County.

Leptopterna ferrugata (Fallen). Roebuck; generally distributed. Massee.

Common in dry grassland throughout the County.

Dipsocoridae

Ceratocombus coleoptratus (Zetterstedt). Gibraltar Point, TF 560 580, 1983, D A Lott.

A small and obscure species of cryptic habits, found in moss, moist leaf litter, etc, and possibly quite widespread in the County.

Saldidae (Shorebugs)

Chiloxanthus pilosus (Fallen). Roebuck; areas 9, 11. Massee. Saltfleetby-Theddlethorpe NNR, TF 4691, 14, viii, 1983.

Upper levels of saltmarshes and flats where there is sparse vegetation and a substrate of sandy mud. Seemingly very local in the County.

Salda littoralis (L). Roebuck; areas 4, 9, 11, 17. Massee.

Common in saltmarshes along the whole length of the coast.

Halosalda lateralis (Fallen). Roebuck; areas 9, 11. Massee.

Rather local in the upper levels of saltmarshes and on flats, where vegetation is sparse.

Saldula orthochila (Fieber). Roebuck; areas 6, 11, 17. Massee.

Frequent in dry places with short vegetation and bare ground.

Saldula pallipes (Fab). Rauceby Warren, TF 0344, 14, viii, 1982; Crosby Warren, SE 9012, 29, v, 1985, J H Bratton.

Recorded by Roebuck from areas 3, 11, 17, and listed by Massee: since this time an additional species has been recognised, S palustris which is likely to be included in these old records. Found inland on bare water margins; gravel workings should provide more records.

Saldula palustris (Douglas). *Saltfleetby-Theddlethorpe NNR, TF 4691, 14, viii, 83.

Common in saltmarshes and on fairly bare ground beside brackish ditches and pools along the whole length of the coast.

Saldula pilosella (Thomson). Roebuck; areas 3, 11. Massee.

A somewhat local species of saltmarshes and brackish ditches, found along the whole length of the coast.

Saldula saltatoria (L). Roebuck; areas 6, 7. Massee.

The common shorebug. Common in wet places generally, particularly on fairly bare mud.

Chartoscirta cincta (H - S). Roebuck; area 11. Massee.

A common wetland species throughout the County amongst tall vegetation such as reeds and sedges.

**Chartoscirta cocksi (Curtis). Roebuck; area 11 (W W Fowler, 1982). Massee.

A rather local insect throughout Britain, usually amongst Sphagnum. It may well still be present in the County.

Hebridae

**Hebrus ruficeps (Thomson). Massee.

The sphagnum bug. A rather local species throughout Britain, found in Sphagnum.

Hydrometridae (Water Measurers).

Hydrometra stagnorum (L). Roebuck; generally distributed. Massee.

Generally common at water margins throughout the County.

Veliidae (Water Crickets)

Velia caprai Tamanini. *River Glen, Katesbridge, TF 1014, 3, iv, 76.

Roebuck lists Velia currens as common. It has since been recognised that this name had in fact been used for two different species in Britain. V caprai and V saulii. The former is the commoner, and most or all of the old records probably refer to this species. It is particularly frequent in backwaters of streams. There are as yet no records for V saulii for Lincolnshire, but it has been recorded within a few hundred yards of the border in v, c, 32. It is best searched for amongst stones and shingle by running water.

Microvelia reticulata (Burmeister). Roebuck; areas 9, 11. Massee.

The minute water cricket. Probably frequent on still water throughout the County. A very small water-skating species, and probably often overlooked.

Gerridae (Pondskaters)

Gerris thoracicus Schummel. Roebuck; common. Massee.

A frequent species, particularly on brackish ditches and pools.

Gerris gibbifer Schummel. Roebuck; common. Massee.

Probably locally frequent; most often on acid water and on woodland pools.

**Gerris argentatus Schummel. Roebuck; areas 7, 11. Massee.

The little pondskater. Usually on base-rich water with good growth of emergent vegetation.

Gerris lacustris (L). Roebuck; common. Massee.

The common pondskater. Common on all types of standing and slow-flowing water throughout the County.

Gerris odontogaster (Zetterstedt). Roebuck; area 11. Massee.

The toothed pondskater. Frequent on well-vegetated standing water.

**Aquarius najas (DeGeer). Roebuck; area 13. Massee.

The river pondskater. A large skater of flowing water or large pools. I have not seen the species in the County. There is no reason why it should not still be present, but it must be very local.

Nepidae (Water Scorpions).

Nepa cinerea L. Roebuck. Massee.

Fairly common in still weedy water throughout the County.

Ranatra linearis (L). Hill (1984); Gibraltar Point, TF 560 580.

The water stick-insect. At the northern edge of its range in Lincolnshire; it is surprising that it should have been recorded from the pools at Gibraltar Point but not in suitable water bodies in the south of the County.

Naucoridae (Saucer Bugs)

**Ilyocoris cimicoides (L). Roebuck; area 6 (W W Fowler). Massee.

This species is seemingly only on the County list by virtue of a 19th century record by W W Fowler from the Arboretum ponds in Lincoln, reported by Mason (1888), where it is quite conceivable that it could have been introduced. Since it occurs at a number of localities in the Peterborough area, and has also been recorded from Leicestershire, it is very hard to believe that it is not present in at least one or two localities in the south of the County.

Aphelocheiridae

Aphelocheirus aestivalis (Fab). River Welland, Deeping, TF 164 090, 1987, C Smith.

The only water bug in Britain found exclusively in running water. It seems to be greatly under-recorded, and may be present in stony-bottomed rivers elsewhere in the County.

Notonectidae (Backswimmers, Larger Water-boatmen)

Notonecta glauca L. Listed by Roebuck as common; at that time all the British species of Notonecta were included under this name. Massee.

The commonest species in the County, frequent in still and slow-flowing water throughout.

**Notonecta obliqua Gallen. Massee.

Chiefly a species of acid waters and uplands, and hence likely to be very local in the County.

Notonecta viridis Delcourt. Massee.

Somewhat local, most frequent in brackish water; common in ditches and drains in the south of the County.

Notonecta maculata Fab. *East Morkery Wood, SK 9518, 5, ix, 76.

Shows a preference for water bodies with hard substrates and little vegetation. Rather local and sporadic in the County, most often found as odd individuals in rather unsuitable habitats. May build up large populations in recently-created concrete pools.

Pleidae (Pygmy Backswimmers, Lesser Water-boatmen)

Plea minutissima Leach. Roebuck; area 6 (W W Fowler). Massee. River Glen, Katesbridge, TF 1014, 1976; Pioneer Pit, Barton-on-Humber, TA 039 229, J H Bratton.

A small bug of still weedy waters. There seem to be few records; it may be frequently overlooked, but in the south-east of the County at least, it seems to be genuinely scarce.

Corixidae (Water-boatmen)

**Micronecta scholtzi (Scholtz). Massee.

In shallow water at the margins of standing water. I know of no recent records for the County, but the margins of gravel workings might prove productive.

Micronecta poweri (D & S). Massee. R Glen, Katesbridge, TF 1014, vii, 76.

The water singer. In flowing water and backwaters of streams, where the bottom is largely devoid of weeds. Apparently local, but probably occasional throughout the County.

Cymatia bonsdorffi (Sahlberg). Roebuck; area 7. Massee.

In clear water, usually with large clumps or banks of weeds. Frequent in the fenland area, perhaps more local elsewhere.

Cymatia coleoptrata (Fab). Roebuck; area 11. Massee.

In weedy still water, particularly amongst dense growth of water milfoil. Probably more or less frequent throughout the County.

Callicorixa praeusta (Fieber). Roebuck; areas 3, 7, 11. Massee.

Common throughout the County.

**Corixa dentipes (Thomson). Roebuck; Farlesthorpe (J E Mason, 1887). Massee.

A local species nationally, often found in small numbers in populations of the very similar C punctata, and hence possibly overlooked. There are records from a number of sites, and it is probably of widespread but scattered distribution throughout the County.

Corixa punctata (Illiger). Roebuck; common. Massee.

Generally common in all types of standing water.

Corixa affinis Leach. Roebuck; area 11. Massee (?)

A local species, found particularly in brackish water, but also in shallow fresh water over muddy bottoms with little weed.

Corixa panzeri (Fieber). *Counterdrain, Tongue End, TF 177 208, 1981.

Rather local, with a preference for clear water, with a high base status or somewhat brackish, and with a good growth of submerged weed. Fairly frequent in suitable habitats.

Hesperocorixa linnei (Fieber). Roebuck; area 11. Massee.

Common throughout the County.

Hesperocorixa sahlbergi (Fieber). Roebuck; common. Massee.

Common throughout the County.

Hesperocorixa moesta (Fieber). Roebuck; area 11. Massee (?). Corby Glen, TF 0124, 13, iv, 82; Saltfleetby-Theddlethorpe NNR, TF 4790, 14, viii, 83.

A local species of shallow pools with grassy margins. No doubt present in a number of other sites in the County.

**Arctocorisa carinata (Sahlberg). Listed by Roebuck from area 11 (1889), and by Massee. This species was presumably recorded in error, since it is confined to Scotland and northern England. A germari, a more widely distributed species, is far more likely.

Arctocorisa germari (Fieber). Near West Halton, SE 918 218, 20, x, 1985, J H Bratton.

This species, in southern Britain, tends to occur in rather bare, often recently-created water bodies. It is likely to be found in recent gravel workings.

Sigara dorsalis (Leach). Roebuck; common. Massee.

Common throughout the County.

Sigara striata (L). Saltfleetby-Theddlethorpe NNR, TF 4790, 1982.

A single individual found amongst a population of S dorsalis. This is known to be established in Britain only in a small area of Kent and Sussex, and this isolated specimen was almost certainly a vagrant.

Sigara distincta (Fieber). Roebuck; area 11. Massee.

Common throughout the County.

Sigara falleni (Fieber). Roebuck; areas 3, 11. Massee.

Common throughout the County.

Sigara fossarum (Leach). Roebuck; area 11. Massee.

Common throughout the County.

Sigara lateralis (Leach). Roebuck; areas 8, 11. Massee.

Common throughout the County in a wide range of water bodies, particularly in highly eutrophic or shallow temporary pools.

Sigara nigrolineata (Fieber). Roebuck; area 11. Massee.

Common throughout the County in a wide range of water bodies.

Sigara concinna (Fieber). Roebuck; area 11. Massee.

A local species of rather sporadic distribution, most often found in small numbers amongst large populations of other species. It may be most frequent in brackish waters.

**Sigara limitata (Fieber). Roebuck; area 11. Massee.

A local species throughout Britain. I have not recorded it in Lincolnshire, but it may occur sporadically throughout the County.

**Sigara venusta (D & S). Massee. Graham (1941); nr Spilsby.

Chiefly an acid-water species, commonest in the north and west and very local in eastern counties. I have not recorded it in the County.

Sigara stagnalis (Leach). *Fosdyke, TF 327 315, xi, 1981.

Common in brackish ditches and pools along the whole of the coast.

Appendix: Heteroptera from Thorne Moors

The remaining unreclaimed areas of Thorne Moors lie largely within Yorkshire, but a small portion, Crowle Moor, lies within South Humberside (though not within v, c, 54). The Moors as a whole have been a rich entomological hunting ground for many years, and have produced a number of interesting Heteroptera. These records have been conveniently summarised by Skidmore et al, (1987). They come largely from the larger Yorkshire portion, but there is no reason why some at least of these species should not also occur in Crowle Moor. I have listed below those species of Heteroptera which Skidmore et al, recorded from Thorne Moors but which would otherwise not appear in this paper. Species listed by Skidmore et al, as requiring confirmation are marked (?)

Cydnidae

?Sehirus biguttatus (L). A nationally uncommon bug associated with cow-wheat.

Lygaeidae

Pachybrachius fracticollis (Schilling). A local groundbug associated with cotton-grass.

?Drymus latus D & S. A nationally uncommon species of rather obscure ecology.

Lamproplax picea (Flor). A nationally uncommon groundbug found particularly at the margins of sphagnum areas and amongst moss in wet woodlands.

Anthocoridae

Anthocoris limbatus Fieber. Usually a wetland species, found on willow.

Anthocoris gallarum-ulmi (DeGeer). Found in leaf-curl galls on elm.

Miridae

Hallodapus rufescens (Burmeister). Usually a heathland species, particularly in areas of tall rank growth of heather.

Dicyphus pallidicornis (M - D). Widespread and rather common throughout Britain on foxglove.

Polymerus palustris (Reuter). A wetland bug, found on marsh bedstraw.

Saldidae

Teloleuca pellucens (Fab). An unusual lowland site for this shorebug, usally associated with bare areas in the uplands of the north and west.

Micracanthia marginalis (Fallen). A nationally rare shorebug found on bare wet peat, particularly in small hollows and pool margins which have recently been cleared or burnt.

Chartoscirta elegantula (Fallen). An uncommon shorebug, usually found amongst fairly dense vegetation: most records are from either sphagnum areas or from the upper levels of saltmarshes.

Corixidae

Hesperocorixa castanea (Thoms). A characteristic sphagnum pool species.

Sigara scotti (Fieber). Usually a bug of acid pools.

Sigara semistriata (Fieber). An acid-water species, local in the eastern counties.

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NEW AND SCARCE SPECIES OF ODONATA 1985-86

Please note that the distribution map for Cordulegaster boltonii should be deleted. This species has not been satisfactorily identified in Lincolnshire, indeed the County seems at present to be well outside the range of this attractive dragonfly.

Open circles on the maps of distribution indicate pre-1969 records. The map showing the number of species recorded in each 10 km square (see final paragraph on p 198) is to be found on p 171 under the Bryology and Lichenology report.

E J Redshaw

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